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Thirty-Third Biennial Report

OF THE

NORTH CAROLINA

STATE BOARD OF HEALTH



JULY 1, 1948—JUNE 30, 1950

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N. C. State Board of Health, Local Health Division
Raleigh, N. C.

MARCH 27, 1951

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NOTE: Indented counties are not a part of the health department immediately preceding them, but are merely served by the same Health Officer.

LETTER OF TRANSMITTAL

Raleigh, N. C., 1950

His Excellency, W. KERR SCOTT,
Governor of North Carolina.

MY DEAR SIR:—Under Authority of Chapter 118, Article 1, Section 7050, Consolidated Statutes of North Carolina, I have to submit to you for transmission to the General Assembly the Biennial Report of the State Board of Health for the period July 1, 1948, to June 30, 1950.

Yours sincerely,

JOHN W.R. NORTON, M.D.
Secretary and State Health Officer.

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THE CHRONOLOGICAL DEVELOPMENT OF PUBLIC HEALTH WORK IN NORTH CAROLINA

In the seventies Dr. Thomas Fanning Wood, of Wilmington, caught the vision of the possibilities of public health work to North Carolina. How fully he grasped the far-reaching consequences of his idea, how clearly he saw the ever-growing hosts of lives saved as a result of his vision and inspiration, we shall never know. We do know that the vision never left him, and that under its sway he worked, through the *Medical Journal* which he edited and through the North Carolina State Medical Society until his influence reached the people of the State in their General Assembly of 1877, with the effect that on February 12, 1877, the North Carolina State Board of Health was born. Ours was the twelfth state board of health to be established.

Without treating the development of the newly-established board with that thoroughness that could be termed history, we think it enough to set down here in chronological order the principal events in the life and growth of the North Carolina State Board of Health.

1877. Board created by the General Assembly. Consisted in the beginning of entire State Medical Society. Society acted through a committee. Annual appropriation, \$100.
1878. First educational pamphlet issued. Subject, "Timely Aid for the Drowned and Suffocated." Annual appropriation, \$100.
1879. The General Assembly reconstituted the Board of Health. Made it to consist of nine members: six appointed by the Governor, three elected by the State Medical Society. Term of office, five years. Dr. Thomas F. Wood elected first Secretary of the Board, May 21. Dr. S. S. Satchwell was first President of the Board. Other legislative provisions: (1) Chemical examination of water, and (2) organization of county boards of health, composed of all regular practicing physicians and, in addition, the mayor of the county town, the chairman of the board of county commissioners, and the county surveyor. Four educational pamphlets issued. Subjects: "Disinfection, Drainage, Drinking Water, and Disinfectants"; "Sanitary Engineering"; "Methods of Performing Post-mortem Examinations"; "Limitation and Prevention of Diphtheria." Annual appropriation, \$200.
1880. Much of the activity this year was devoted to efforts to control diphtheria. Prompt reporting of cases was urged. Water supplies and sewage disposal provoked much discussion. A survey of schoolhouses was carried out through the County Superintendents of Health. Most of the public schoolhouses were of one-teacher size, of frame and log construction, and none of them in rural districts had any type of privy.

1881. General Assembly passed a law requiring regulation of vital statistics at annual tax listing; law ineffective. Annual appropriation, \$200.
1882. Dr. Thomas F. Wood, State Health Officer, was President of the North Carolina Medical Society and the annual meeting was held in Concord. At this meeting the State Board of Health appointed a committee for each county of one physician to "canvass (the people) in the interest of prospective legislation" on public health matters. The subject of the annual essay presented by Dr. W. P. Beall of Greensboro was "Preventive Medicine." The chief items of public health interest this year were the emphasis placed on the effectiveness of smallpox vaccination and the increasing realization of polluted water as a source of typhoid fever.
1883. Dr. J. W. Jones of Wake Forest was elected to membership on the State Board of Health by the State Medical Society at its annual meeting at Tarboro. Dr. Jones became at once an active "friend and promoter of sanitary work." Due to his efforts, a meeting of all county superintendents of health was called in Raleigh early in the next session of the Legislature. One of the chief purposes of the proposed meeting was to urge the enactment of vital statistics legislation, and to procure a small appropriation for printing.
- Several epidemics of smallpox with numerous deaths were reported—one of the most severe was in Clay and Graham counties.
1884. Dr. Wood, Secretary and Treasurer of the State Board of Health, made a pessimistic report this year. He said that "during the year little more had been done than to issue pamphlets on the subject of city sanitation." Dr. Wood pointed out that it was impossible to inaugurate public health work, to say nothing of carrying it on without some money, at least.
- The State Medical Society adopted a resolution at its conjoint session held in Raleigh requiring the President of the Medical Society to appoint a committee "to go before the Legislature and request an adequate appropriation to be used by the Board in behalf of the high and humane objects of the Board."
1885. General Assembly made county boards of health more efficient; allowed printing privileges not to exceed \$250 annually. Annual appropriation, \$2,000.
1886. *The Health Bulletin* made its appearance in April. Pamphlet on "Care of Eyes and Ears" by Dr. Richard H. Lewis, printed and distributed.
1887. Fear of yellow fever which had made its appearance late in the year through the port of Key West, Florida, where a patient with the disease had been smuggled in, was one of chief concern to the Board. Much interest and discussion in the Board member-

ship throughout the state this year centered about the necessity for providing some safe method of drinking water and sewage disposal.

1888. Yellow fever epidemic in Florida and refugees to Western North Carolina demonstrated value of a Board of Health to cope with situation. Annual appropriation, \$2,000.
1889. The chief item of interest and importance to the cause of public health was a state-wide "sanitary convention" held in Raleigh February 6. It was largely attended by physicians and others from many cities and towns who were much concerned about the problems of a pure water supply and sewage disposal. The Board published an exhaustive paper by Dr. H. T. Bahnson of Salem, President of the Board, entitled: "The Public Water Supply of Towns and Cities in North Carolina."

Providing refuge for hundreds of people who had fled from their homes farther south on account of yellow fever was a grave problem.
1890. A widespread epidemic of influenza or as it was commonly called at the time "grip" or "La Grippe," spread over the state in January. The epidemic appeared first in Russia about November 1, 1889. By December 15, 1889, 200,000 cases were reported in New York alone. It struck North Carolina during the first week in January and in two weeks time it was reported to be raging in 68 counties.
1891. Influenza continued to be present in all sections of the state throughout the year. The conjoint session met in Asheville on May 27. The term of Dr. W. D. Hilliard of Asheville as a member of the Board expired this year. Dr. S. Westray Battle also of Asheville was elected to succeed Dr. Hilliard. Dr. Thomas F. Wood was re-elected Secretary and Treasurer for a term of six years.
1892. Dr. Thomas F. Wood, the Secretary of the Board, died August 22. Dr. Richard H. Lewis elected Secretary to succeed Dr. Thomas F. Wood, September 7. Annual appropriation, \$2,000.
1893. Legislative provisions, (1) Laws improving the reporting of contagious diseases, (2) the protection of school children from epidemics, (3) protecting the purity of public water supplies, and (4) regulation of common carriers. Legislature provided that the Governor appoint five of the nine members of the Board of Health, that the State Medical Society elect four, and that the term of office of the members of the State Board of Health be six years. The \$250 printing limit was removed. Pamphlet on quarantine and disinfection was prepared and reprinted by many of the state papers. Annual appropriation, \$2,000.
1894. A number of public health conferences were arranged and held in different towns of the state. *Bulletin* was increased from a mailing list of 800 to 1,200. Annual appropriation, \$2,000.

1895. Dr. Albert Anderson and Dr. W. T. Pate were elected bacteriologists for the Board. Annual appropriation, \$2,000.
1896. Board passed a resolution requiring chemical and bacteriological examinations of municipal water supplies. Dr. Venable, of Chapel Hill, undertook the chemical examination, and Drs. Anderson and Pate the bacteriological examination. Board also directed Mr. John C. Chase, the engineer member, to inspect all municipal water plants in the state. Annual appropriation, \$2,000.
1897. General Assembly enacted law requiring county superintendents of health to be elected by county commissioners and reduced term of office to one year. Annual appropriation, \$2,000.
1898. The address of the President of the North Carolina Medical Society this year by Dr. Francis Duffy of New Bern was devoted almost exclusively to the promotion of public health. It really marked an epoch as sounding an advanced note in the advancement of human progress.
- The State Health Officer, Dr. R. H. Lewis, devoted a great deal of time and energy to try to arouse the people of the state to the necessity for vaccination against smallpox.
1899. General Assembly improved the laws protecting public water supplies. Smallpox prevailed extensively in the state. Dr. Henry F. Long, and later, on Dr. Long's resignation, Dr. Joshua Tayloe, were employed to travel over the state, consulting with and advising the local sanitary authorities as to proper means for protecting the public. Annual appropriation, \$2,000.
1900. State Board of Agriculture, on request of State Board of Health, agreed to examine samples of water from public water supplies until Board of Health could provide its own examiner. Annual appropriation, \$2,000.
1901. State Board of Embalmers, with representatives of State Board of Health, established. County health work placed in the hands of county sanitary committees composed of county commissioners and two physicians which commissioners elected to serve with them. Term of office of county superintendent of health made two years. Annual appropriation, \$2,000.
1902. This year will be long remembered for the widespread prevalence of smallpox in virulent form. It caused many deaths in different sections in the early months of the year. In one county at least fifty people died, including many well-to-do persons. Not having any system of vital statistics reports, it is impossible to even estimate the number of cases, except from physicians' voluntary reports and death notices in the newspapers.
1903. General Assembly enacted law permitting Board of Health to charge \$5 for each analysis of a public water supply, this fee to be used in paying Department of Agriculture for services of ex-

aminer. Dr. C. W. Stiles, U.S. P.H.S., before the State Medical Society at Hot Springs, called attention to prevalence of hookworm disease in the South. Dr. J. L. Nicholson and Dr. W. S. Rankin, working under State Board of Health during fall of 1903 and spring of 1904, showed great prevalence of this disease in North Carolina. Annual appropriation, \$2,000.

1904. A stenographer was employed. One hundred and twenty thousand pamphlets on tuberculosis were printed and distributed. There was a renewal and an extension of cooperative work between the Board of Health and the state press, a number of articles dealing with hygienic and sanitary subjects being furnished the papers and published in them. Annual appropriation, \$2,000.
1905. General Assembly established State Laboratory of Hygiene; imposed water tax of \$64 on all public water companies; voted \$600 annually for the support of laboratory. Small appropriation made it necessary for the Department of Agriculture to continue to assist State Board of Health. Annual appropriation, \$2,000.
1906. The North Carolina Association for the Study and Prevention of Tuberculosis was organized. Annual appropriation, \$2,000.
1907. Two thousand dollars appropriated for the State Laboratory of Hygiene. Pasteur treatment provided. State Sanatorium for treatment of tuberculosis founded; \$15,000 appropriated for permanent improvements and \$5,000 for maintenance. A law requiring the separation of tuberculosis prisoners from other prisoners was enacted. Annual appropriation, \$4,000.
1908. January 1, Dr. C. A. Shore became Director of State Laboratory of Hygiene. Annual appropriation, \$4,000.
1909. General Assembly provided for (1) whole-time State Health Officer; (2) collection of vital statistics of towns having a population of 1,000 or over; (3) that all public water companies file plans and specifications of their plants with the State Board of Health, and that the State Board of Health pass necessary rules and regulations for the care of public watersheds and plants and furnish such rules and regulations and other advice to those having charge of public water supplies; (4) that counties provide free diphtheria antitoxin for county indigents, and (5) that the maintenance appropriation for the Sanatorium be increased from \$5,000 to \$7,500, and an additional \$30,000 be granted for permanent improvements. Dr. Richard H. Lewis resigned as Secretary of the Board, and Dr. W. S. Rankin was elected as his successor, beginning his official work July 1. Annual appropriation, \$10,500.
1910. General effort to interest the people and state organizations in public health work. *Bulletin* increased from 3,500 edition to 10,500 edition. Addresses on public health work delivered to Conference of County Superintendents of Schools, State Federation of Women's Clubs, State Press Association, and Sanitary Sunday

observed in April. Dr. John A. Ferrell elected, February, Assistant Secretary for Hookworm Eradication; began work under State Board of Health and Rockefeller Sanitary Commission.

1911. Legislature established county boards of health to take the place of the county sanitary committees; county board of health composed of chairman board of county commissioners; county superintendent of schools, mayor of county town, and two physicians selected by the three county officials to serve with them. Legislature also abolished quarantine for smallpox and improved the quarantine laws. One thousand dollars annually appropriated to contract with antitoxin manufacturers for state supply of high-grade diphtheria antitoxin, with result that price of antitoxin was cut to one-fourth former price, saving the citizens of the state over \$30,000 annually. *Bulletin* increased from 11,500 copies to 20,000 copies each edition; closer cooperation with press of state developed; regular weekly press articles prepared and sent to papers; increase in numbers of popular pamphlets for distribution. Hookworm this year largely educational through the school forces and investigated through county dispensaries; thousands of children found infected and treated. Strong sentiment began to make itself felt for better health work by counties, four counties employing whole-time county health officers. Guilford County—one of the four—began its work June 1 and was the first county in the United States to inaugurate full-time county health work. Maintenance appropriation for State Sanatorium increased to \$12,500, with \$20,000 voted for permanent improvements. Annual appropriation, \$22,500.
1912. *Bulletin* increased to 40,000 edition; number of popular pamphlets dealing with different diseases increased; press work improved; educational work of Board along all lines amplified. Secretary of Board of Health called attention of conjoint meeting of State Medical Society and State Board of Health to the relative importance of health problems and the bearing of this subject upon the proper apportionment of health funds; instrumental in passing a resolution to the effect that pellagra was an interstate problem, not a state problem, and requesting the Federal Government to deal with pellagra as a Federal problem; resolution responsible, to considerable extent, for successful effort on part of Hon. John M. Faison's securing Congressional appropriation of \$45,000 for the study of pellagra by the Federal Government. Hookworm work extended and county funds appropriated to supplement state and Rockefeller Foundation for this work. Annual appropriation, \$22,500.
1913. General Assembly passed Model Vital Statistics Law with \$10,000 appropriation for its enforcement. County superintendent of health changed to either county physician or county health officer, depending on whether part-time or full-time service. Educational efforts of Board continued and enlarged. Hookworm work along

same line as year before increased in amount. Dr. John A. Ferrell resigned as Assistant Secretary to accept position with the central office of the Rockefeller Sanitary Commission in Washington, D. C. Dr. C. L. Pridgen succeeded Dr. Ferrell. The movement for improved county health work had by this time resulted in ten counties electing wholtime county health officers. The State Sanatorium for Treatment of Tuberculosis turned over by Extra Session of 1913 to the management of State Board of Health. Annual appropriation, \$40,500.

1914. Preceeding work of the Board continued. Board of Health took over management of Sanatorium; started out under many difficulties on account of the institution owing many debts and the appropriation being limited. Hookworm work changed to community work directed to the installation of sanitary privies in all homes. Laboratory began to produce and distribute free anti-typhoid vaccine. Dr. C. L. Pridgen resigned as Director Hookworm Eradication, and Dr. W. P. Jacocks succeeded him. Annual appropriation, \$40,500.
1915. General Assembly makes state vital statistics law conform to national model by requiring burial permits in rural communities; enacts legislation permitting county commissioners and towns and cities to appropriate money for support of tuberculosis citizens in State Sanatorium; provides \$15,000 for purchase and building of antitoxin plant; appropriates \$60,000 for payment of Sanatorium debts and new buildings and other improvements, and \$25,000 annually for maintenance and \$10,000 for extension anti-tuberculosis work. Educational work greatly extended: *Bulletin* now 47,000; traveling public health exhibit shown at fairs and other assemblages; press work greatly developed through employment of Miss Kate Herring, a journalist, for her whole time; stock lectures with lantern slides supplied public speakers in different parts of the state; community soil pollution work under Dr. W. P. Jacocks stops in April, and Bureau of Rural Sanitation, with Dr. G. M. Cooper at its head, succeeds, beginning work May 1. Considerable amount of work done for improvement of prison conditions. The unit system of county health work gets a good start; over 52,000 people given three complete vaccinations against typhoid fever, and medical inspection of schools put on in six counties. Annual appropriation, \$50,500.
1916. North Carolina was admitted to the Registration Area for deaths. To the educational agencies of the Board was added a self-supporting moving picture health show. Many saw this show during the year and, seeing, believed in health work as never before. *Bulletin* reached 51,000 edition. Cooperation with University in developing a plan and putting on a home post-graduate course in medicine, giving first course to 169 doctors. Put into operation an optional system of hotel inspection, with grading and publishing scores. Continued Bureau of Rural Sanitation, giving three

anti-typhoid injections to 48,000, making 100,000 immunized in summers of 1915 and 1916. Did complete medical inspection of six counties and with inspection a large amount of educational work as to sanitary and hygienic living. Secured effort by Federal Children's Bureau to develop unit of child hygiene work, the Bureau using two employees to work in Cumberland and Swain counties for about eight months. Laboratory of Hygiene buys land and erects its own building. Annual appropriation, \$55,500.

1917. The General Assembly passed the following important health legislation: Chapter 263, entitled "An act to prevent and control the occurrence of certain infectious diseases in North Carolina"; Chapter 244, entitled "An act to provide for the physical examination of the school children of the state at regular intervals"; Chapter 276, entitled "An act for the cooperative and effective development of rural sanitation"; Chapter 257, entitled "An act to prevent blindness in infancy, designating certain powers and duties and otherwise providing for the enforcement of this act"; Chapter 66, entitled "An act to provide for the sanitary inspection and conduct of hotels and restaurants"; Chapter 286, entitled "An act to regulate the treatment, handling and work of prisoners." Following the enactment of this legislation, administrative machinery, consisting of a Bureau of Epidemiology under the direction of Dr. A. McR. Crouch, a Bureau for the Medical Inspection of Schools under the direction of Dr. Geo. M. Cooper, and a Bureau for County Health work, under the direction of Dr. B. E. Washburn was established. Dr. Washburn, an officer of the International Health Board, was loaned to the state without cost, and the International Health Board, in addition to furnishing Dr. Washburn, appropriated \$15,000 annually for County Health Work in accordance with the provisions of Chapter 276.

The United States Public Health Service in February, 1917, detailed Dr. K. E. Miller to study county health work in different sections of the country and to establish for demonstration purposes, in Edgecombe County, a department of health on an economic basis easily within the financial reach of the average county.

The State Laboratory of Hygiene moved into its own building January 15, 1917.

The state was admitted to the registration area of the Union for births in January, 1917, the Bureau of the Census having found after investigation that our birth registration was 96 per cent complete.

The special campaign against typhoid fever began so satisfactorily in 1915 was continued. Free vaccination of the people, however, was interfered with by the difficulty in securing medical officers to do the work, the preparedness program of the Government having caused many physicians and nurses to enter the army and navy; nevertheless, a total of 30,000 citizens of the state were vaccinated as a direct result of the Board's activities,

and many thousands of others were vaccinated by the physicians of the state as a result of the educational work of the Board directed to impressing the people with the value of vaccination as a means of prevention for typhoid fever.

In December, 1917, life extension work, which consisted briefly of the free physical examination of interested citizens for the purpose of advising them as to their physical condition and needed hygiene reform and medical treatment, was begun on a county basis. The funds necessary for this work were appropriated partly by the state and partly by the counties in which the life extension work was carried out. Dr. Amzi J. Ellington, of Raleigh, who at the time was a resident physician in the New York City Hospital, was employed and placed in charge of the work. Life extension work was carried out in Vance, Alamance, Lenoir, and Robeson counties, and resulted in the full physical examination of 4,000 citizens. This work was very favorably received, and the outlook for its continued development seemed excellent when, with the declaration of war and the call for physicians to enter the military service of the country, Dr. Ellington enlisted in the Medical Corps of the Army. For this reason, and for the further reason that it has been almost impossible to secure health officers during the past two years, the work was not resumed.

The educational work of the State Board of Health consisted in the issuance of eight issues of the *Monthly Health Bulletin*, each monthly edition amounting to 45,000, and a daily newspaper health article. The Bureau continued its moving picture show exhibit. Arrangements were made for the preparation of newspaper plate, which was sent to and extensively used by 202 papers having a total circulation of 303,000.

The annual appropriation for the State Board of Health was \$60,772.16. The annual appropriation for the State Laboratory of Hygiene was \$12,500, and this, in addition to \$9,087.22 in fees permitted under the laws of the state to be paid to the Laboratory for special work, provided the Laboratory with a total annual budget of \$21,587.22.

1918. Much of the work this year was influenced by the war and has to do with preparedness. The State Health Officer visited Washington, at the request of the Council of National Defense and as chairman of a committee of State Health Officers, on a number of occasions for conferences with respect to preparedness measures, provisions for the control of venereal diseases, arrangements for coordinating the control of infectious diseases in the civilian population with their control in cantonments, and to arrange, if possible, with the Public Health Service and the Surgeon-General of the Army for preserving the personnel of state health departments during the war.

Considerable time was given to assisting Major John W. Long, Medical aide to the Governor, in the work of organizing the Medical Advisory Boards and in interesting physicians in enter-

ing the medical service of the Army and Navy, and later in the year, in inducing the physicians of the state to become members of the Volunteer Medical Service Corps.

Partly as a result of these activities, the Surgeon-General of the Army assigned Major Joseph J. Kinyoun to assist the State Board of Health in the control of communicable diseases, the Board being under no financial obligation for Major Kinyoun's assistance; and as a result of the successful termination of the activities of various interests looking to more effective control of venereal diseases, the Kahn-Chamberlain bill passed Congress, and made available to the State of North Carolina, and without condition, \$23,988.61 for venereal disease work.

The Laboratory during this year began the distribution of a high grade of diphtheria antitoxin.

The Bureau of Medical Inspection of Schools, under the direction of Dr. G. M. Cooper, developed, and with a degree of success that we may say established, free dental clinics for the public schools of the state. The Bureau also developed to a successful extent an arrangement in the form of adenoid and tonsil clubs for the practical and economic treatment of public school children suffering from these defects.

The Bureau of Epidemiology employed two third-year medical students, equipped them with motorcycles, and put them into the field to investigate infringements of the quarantine law. Sufficient convictions were obtained to impress the people with the determination of the state to enforce its health laws, and a fairly satisfactory compliance with the laws regarding the reporting of communicable diseases was brought about.

The Bureau of Venereal Diseases, paid for by the Federal appropriation, was established in September under the directorship of Dr. James A. Keiger.

Mr. Warren H. Booker, for the last seven years the efficient director of the Bureau of Engineering and Education, left in September for Red Cross work in France, the work of his bureau being continued, with the exception of the engineering work, by Mr. Ronald B. Wilson, who had been employed earlier in the year to succeed Miss Herring in assisting Mr. Booker with the journalistic work, Miss Herring having been engaged by the War Department for educational work.

Perhaps the most outstanding feature of the health work during the year 1918 was the epidemic of influenza. The epidemic began early in October and caused in October alone 6,056 deaths; in November 2,133 deaths, and in December 1,497 deaths, a total during the last three months of 9,686 deaths.

The annual appropriation for the State Board of Health for 1918 was \$73,210.38.

The annual appropriation for the State Laboratory of Hygiene was \$12,500. The Laboratory, during this year, collected \$8,532.48 in fees for special work, so that the total income of the Laboratory for this year was \$21,032.48.

1919. The General Assembly passed the following important health legislation: Chapter 71, entitled "An act to prevent the spread of disease from insanitary privies"; Chapter 192 entitled "An act to provide for the physical examination and treatment of the school children of the state at regular intervals"; Chapter 206 entitled "An act for the prevention of venereal diseases"; Chapter 213, entitled "An act to require the provision of adequate sanitary equipment for public schools"; Chapter 214, entitled "An act to obtain reports of persons infected with venereal diseases"; Chapter 215, entitled "An act to amend Chapter 671, Public-Local Laws of 1913, relating to the injunction and abatement of certain nuisances."

The Bureau of Engineering and Inspection was organized in April. The engineering work of the Board had been suspended with the resignation of Mr. Warren H. Booker in September, 1918, Mr. Booker having gone to France to engage in tuberculosis work under the direction of the Red Cross. Between September, 1918, and April, 1919, the engineering problems coming before the Board had been referred and very kindly and effectively taken care of by Col. J. L. Ludlow of Winston-Salem, the engineer member of the Board. Mr. H. E. Miller, an engineer and a graduate of the University of Michigan, was placed in charge of the new bureau, and his brother, Dr. K. E. Miller, of the United States Public Health Service, was detailed by the Service to assist him in the organization of his work. Mr. H. E. Miller and Dr. K. E. Miller spent the spring and summer and a part of the fall in studying various types of privies, in preparing plans for the construction and maintenance of privies, and in preparing the necessary notices and literature to inform the people of the objects and requirements of the new privy law.

On May 1 Dr. A. J. Warren, health officer of Rowan County, was appointed to and accepted the position of Assistant Secretary of the Board.

About the first of the year, Miss Herring returned to the educational work of the Board. After a few months she returned to the Federal Service, and Mr. R. B. Wilson, who had left the Board work upon Miss Herring's return, was again offered a place with the Board. Mr. Wilson accepted and assumed his duties on July 1.

On August 1 Dr. A. McR. Crouch Director of the Bureau of Epidemiology, resigned to accept a position with the city of Wilmington. Dr. F. M. Register, whole-time health officer of Northampton County, succeeded Dr. Crouch as director of the bureau.

Dr. E. J. Wood resigned this year, effective at the end of his term, and Governor Bickett appointed Dr. E. J. Tucker of Roxboro for a six years term—first dentist to serve on the Board

In September Dr. J. R. Gordon, Director of the Bureau of Vital Statistics since 1914, resigned on account of impaired health, and

on October 1 the Bureau of Epidemiology and the Bureau of Vital Statistics were combined and placed under the direction of Dr. Register.

In September Mrs. Kate Brew Vaughn, Director of the Bureau of Infant Hygiene, resigned. The bureau was reorganized under an understanding with the American Red Cross and was enlarged to include, in addition to infant hygiene, the problem of public health nursing, the name of the bureau being changed to that of "Bureau of Public Health Nursing and Infant Hygiene." Under the agreement with the Red Cross this bureau was to have an available appropriation of \$12,000 a year, half of which was to be furnished by the American Red Cross and half by the State Board of Health. The personnel of the bureau and its plan of work, under the agreement, was made contingent upon the approval of both participating agencies, the American Red Cross and the State Board of Health. In December Miss Rose M. Ehrenfeld took charge of the new bureau and began its organization and work.

On October 1 Dr. Jas. A. Keiger, Director of the Bureau of Venereal Diseases, resigned and Dr. Millard Knowlton was appointed to succeed him.

The typhoid campaign carried on during the summer through previous years was continued in the summer of 1919, using third-year medical students, furnished either with automobiles or motorcycles for getting about. Campaigns were carried out in the following counties: Bertie, Cabarrus, Chatham, Chowan, Columbus, Craven, Hertford, Iredell, Johnston, Lincoln, Onslow, Pasquotank, Perquimans, Randolph, Richmond, Rockingham, Stanly, Union, Warren, Wayne. A total of 49,076 were given complete vaccination.

The educational work of the Board consisted of the publication of a 48,000 monthly edition of the *Bulletin*, and the distribution of about 350,000 pieces of public health literature.

The funds available during this fiscal year amounted to \$198,549.14, of which \$102,301.98 was from state appropriations and the remainder from outside sources.

The appropriation for the State Laboratory of Hygiene for this year was \$28,500; in addition to this, the Laboratory collected in fees for special work, for antitoxin, and in water taxes a total of \$14,344.02, making a total of \$42,844.02 available for work of Laboratory.

1920. During this year there was a Special Session of the General Assembly, lasting twenty days and held in the latter part of August. This Special session passed an act amending the vital statistics law, making the fees for local registrars 50 cents instead of 25 cents for each certificate properly filed with the State Board of Health.

On January 1 Dr. B. E. Washburn, who had had general direction of the cooperative county health work and who had ren-

dered most acceptable service, was recalled by the International Health Board and detailed to take charge of their interests in Jamaica. Dr. K. E. Miller, of the United States Public Health Service, who had been detailed in January, 1917, to organize a model county health department in Edgecombe County and then, in 1919, to assist his brother, Mr. H. E. Miller, in organizing the work of the new Bureau of Engineering and Inspection, to which was assigned the duty of enforcing the state-wide privy act, succeeded Dr. Washburn as director of the Bureau of County Health Work.

In January a cooperative effort with the United States Public Health Service and the International Health Board to demonstrate the possibilities and advantages of the eradication of malaria from certain towns and cities in the eastern part of the state was begun. The terms of cooperation were that the International Health Board and the State Board of Health were to pay one-half of the expenses of the local work and the town or city in which the work was done the other half, the Public Health Service furnishing, as its part, expert supervising personnel. The towns and cities chosen for this work were Goldsboro, Farmville, and Greenville, the budget for each municipality being respectively: Goldsboro, \$13,670.98; Farmville, \$5,000, and Greenville, \$9,000, a total investment in this work of \$27,670.98. Mr. W. A. Fuchs, Associate Sanitary Engineer, was detailed by the Service to have supervision of the work.

In February Dr. A. J. Warren, Assistant Secretary of the State Board of Health, resigned his position in order to accept the appointment of city health officer of Charlotte, N. C.

In the winter and spring of 1920 the North Carolina Landowners Association, under the progressive leadership of Mr. W. A. McGirt, of Wilmington, undertook a very extensive educational campaign against malaria, which was carried on through the public schools of thirty-eight counties in eastern North Carolina. A series of county and state prizes for the best essay on malaria by public school children were offered as an inducement to the school children to interest and inform themselves and, indirectly, their parents with regard to the importance of this disease. To make possible this work by the school children 75,000 malaria catechisms, prepared by Dr. H. R. Carter, of the United States Public Health Service, were distributed through the public schools of the eastern part of the state to the school children. Thousands of essays were written, and it is reasonable to believe that the campaign was one of the most successful public health educational attempts yet undertaken.

In June it was found advisable to separate the Bureau of Epidemiology and the Bureau of Vital Statistics which had, on account of the scarcity of health officers, been placed under the directorship of a single bureau chief, Dr. F. M. Register. Dr.

Register was appointed Director of the Bureau of Vital Statistics and Dr. J. S. Mitchener was appointed Director of the Bureau of Epidemiology.

In April the Interdepartmental Social Hygiene Board assigned to the State Board of Health several workers for making a study of vice conditions in North Carolina towns and cities and for taking such steps as were found expedient for decreasing prostitution. This group of workers was withdrawn in September on account of differences developing between them and Dr. Knowlton, chief of the Bureau of Venereal Diseases, with the understanding that another group of workers would be assigned to this work at a later date.

In June arrangements were made with the United States Public Health Service and the American Social Hygiene Association for the development of an elaborate educational unit on sex hygiene and venereal diseases designed to reach rural meetings through the use of picture films and a portable truck. An outfit consisting of several lecturers and a moving picture truck began work in Cumberland County in August, and from its very beginning met a most cordial reception and gave every promise of developing into one of the most useful agencies for dealing with the venereal disease problem.

During the year anti-typhoid vaccination campaign was continued in Alamance, Bladen, Columbus, Duplin, Franklin, Gaston, Harnett, and Mecklenburg counties. Cooperative campaigns, in which the counties furnished the working personnel, were also carried on in Anson, Johnston and Rutherford counties. A total of 29,435 citizens have been vaccinated against the disease, and this does not include Columbus County, in which the work was just beginning when this report was completed.

The educational work of the State Board of Health during this year consisted of a 48,000 monthly edition of the State Board of Health *Bulletin* and the distribution of approximately 350,000 pieces of public health literature.

The funds available during this fiscal year amounted to \$342,-284.33, of which \$176,152.61 was state appropriation and the remainder from outside sources.

The appropriation for the State Laboratory of Hygiene for this year was \$25,000; in addition to this, the Laboratory collected in fees for special work, for antitoxin and in water taxes, a total of \$13,698.89, making a total of \$38,698.89 available for the work of the Laboratory. The above amount being insufficient, the Special Session of the Legislature authorized a loan of \$15,000 to enable the work of the Laboratory to be carried on, making a total of \$53,698.89 available for the work of the Laboratory during this year.

1921. The Legislature meeting early in January of this year was asked by the Board to amend the state law restricting the salary of the executive officer of the Board to \$3,000 annually, so as to make the salary \$5,000. Such an amendment was passed. A

further request from the Board was that legislation be enacted removing the inspection tax of forty cents from privies coming under the supervision of the Board of Health. Such an amendment to the State-wide Privy Law was also enacted. A bill was introduced in this session of the General Assembly under the initiative of Hon. Emmet H. Bellamy requiring a physical examination of all applicants for marriage and making issuance of license contingent upon the physical qualifications of the applicant. The State Board of Health approved and supported Mr. Bellamy's bill, realizing, as did the author of the bill, that the proposed legislation was but a step in the right direction and was, therefore, rather loosely drawn and left many things to be desired. The bill finally passed in amended form as Chapter 129, Public Laws of 1921.

The Governor appointed Mr. Chas. E. Waddell, an engineer of Asheville, to succeed Col. J. L. Ludlow as the engineer member of the Board.

Perhaps the most important change inaugurated in state health administration during this year was the adoption of a cost basis for standardizing and measuring the efficiency of public health work in those counties in which the state participated financially. This new principle is fully described in the State Board of Health *Bulletin* for January, 1922, and a further discussion of cost basis for public health work is unnecessary here except, perhaps, to say that it is apparently at least one of the first attempts to introduce the cost system of industry into government.

The Bureau of Venereal Disease, in charge of Dr. Millard Knowlton, established as a part of the war-time activities of the Board in cooperation with the Bureau of Venereal Diseases of the Federal Government, was combined with and made a part of the work of the Bureau of Epidemiology, under the general direction of Dr. J. S. Mitchener.

Funds available for the year included state appropriations, \$275,000; miscellaneous receipts, \$164,184.42; total, \$439,184.42.

1922. In order to bring the records of this department into harmony with those of other state departments, in accordance with the Act of the General Assembly of 1921, changing the fiscal year of the state so as to begin on July 1 each year, this report ends with June 30, 1922. It, therefore, covers a period of nineteen months, one full fiscal year from December 1, 1920, to November 30, 1921; seven months from December 1, 1921, to June 30, 1922. Effective February 1, the American Red Cross Society abrogated the agreement existing since 1919 by which it jointly financed, with the Board of Health, the Bureau of Public Health Nursing and Infant Hygiene. This bureau was reorganized April 1 as the Bureau of Maternity and Infancy, for its maintenance the state receiving \$27,259.66 annually from the United States Government in accordance with the Sheppard-Towner Act for the promotion of the welfare of mothers and infants, Dr. K. P. B. Bonner, of Morehead

City, was secured as the director of the reorganized bureau, with Miss Rose M. Ehrenfeld as supervisor of nursing and Mrs. T. W. Bickett in charge of educational work.

The funds available during this period, and their distribution were seven-twelfths of the amounts set out under the tabulation for 1921.

The appropriation for the State Laboratory of Hygiene for the nineteen months between December 1, 1920, and June 30, 1922, was \$87,083.33; in addition to this, the Laboratory collected in fees for special work, for antitoxin and in water taxes, a total of \$30,872.51, making a total of \$117,955.84 available for the work of the Laboratory.

1923. The General Assembly of 1923 enacted some important and far-reaching legislation affecting public health work in North Carolina. The most important legislation enacted this year was the act providing for an independent board of directors for the State Sanatorium for Tuberculosis, removing the direction of that institution from the authority of the State Board of Health. Facilities were also provided at the State Sanatorium for the confinement, care, and treatment of tuberculosis convicts. Other legislation included the act to provide for the sanitary manufacture of bedding, the latter act to be enforced by the State Board of Health. The Bureau of Epidemiology was again combined with the Bureau of Vital Statistics.

On March 1 Dr. G. M. Cooper was made Assistant Secretary of the State Board of Health, and Dr. J. S. Mitchener was assigned to the Bureau of Medical Inspection of Schools, after the consolidation of the Epidemiology work, which he had directed with the Bureau of Vital Statistics. Dr. K. E. Miller, of the United States Public Health Service, was recalled for duty elsewhere.

In order to experiment with the plan of District Health Work, an effort was made to place responsibility for all State Board of Health activities under the direction of district directors attached to the staff of the State Board of Health. This effort was continued throughout the year, but proved to be ineffective and unsatisfactory.

During the year Dr. F. R. Harris resigned from membership on the State Board of Health to become health officer of Vance County. The Board elected Dr. D. A. Stanton, of High Point, to fill the unexpired term of Dr. Harris.

In order to further carry on the important work of malaria control in a number of the counties of the coastal plain area of the state, which was work so effectively commenced in an educational capacity in 1920, the International Health Board was requested to participate in this work and to provide a director for that service. The International Health Board agreed, accepted the invitation and assigned Dr. H. A. Taylor, of Alabama, to head this division. Pamlico County was selected as headquarters for Dr. Taylor. The cost of this work was borne by the State Board of

Health and Pamlico County contributing 40 per cent each and the International Board the remaining 20 per cent. The International Health Board, of course, paid the salary of Dr. Taylor.

In June Dr. J. S. Mitchener resigned as director of the Bureau of Medical Inspection of Schools and Dr. Roy C. Mitchell, who had been doing some special educational field work for the Board, temporarily succeeded Dr. Mitchener.

Early in 1923 Dr. W. S. Rankin, the State Health Officer, was invited by the Committee of Municipal Health Department Practice of the American Public Health Association to become field director for the committee in making a study of municipal health practices in the United States. This was for the purpose of working out a basis or set of principles through which city health departments could be given classification or grading, and also for the purpose of assisting such departments in their organization work. The request was brought before a special meeting of the executive committee of the Board, and it directed the Secretary to take advantage of the opportunity offered. The Board granted to the Secretary one year's leave of absence, but requested him at the same time to continue in touch as executive officer of the Board with the work of the Board.

On November 1 Dr. Rankin assumed his duties and established official headquarters in New York City for the work of the committee.

The general organization of the executive staff of the Board was continued with the Assistant Secretary, Dr. G. M. Cooper, as official head of the staff. Local health work in the eastern half of the state was directed by Dr. H. A. Taylor, and that in the western part of the state by Dr. E. F. Long, who had been assistant to Dr. K. E. Miller as director of county health work. To assist Dr. Taylor in the east, Dr. George Collins, formerly health officer of Mecklenburg County, was employed, and to assist Dr. Long in the western half of the state Dr. C. N. Sisk, formerly health officer of Forsyth County, was employed.

During the year a plan for the more adequate sanitary control of public milk supplies in the state was formulated. This work was undertaken under the direction of the Bureau of Engineering and Inspection, and Mr. Malcolm Lewis was employed to organize this work. Several changes in personnel took place this year. Dr. M. L. Isley, who had been employed in county health department work, and Dr. Roy C. Mitchell resigned. Miss Rose Ehrenfeld also resigned.

1924. During this year Dr. Rankin continued his work with the American Public Health Association until November 1. During this period the work of the Board was directed by Dr. G. M. Cooper, serving as Acting Secretary. On November 1 Dr. Rankin returned, and during that month, under the direction of Dr. Maxey of the United States Public Health Service, a school for health officers was conducted under the auspices of the State Board of Health for one

week in Raleigh. This meeting was well attended, and every modern method which might be utilized in the work of a modern public health department was discussed throughout the week.

Dr. M. L. Townsend was placed in charge of the Division of Health Education. Dr. K. P. B. Bonner resigned as director of the Bureau of Maternity and Infancy.

1925. Dr. Rankin resigned, effective June 1, to accept the position of director of the Hospital and Orphan Division of the Duke Foundation. At a meeting of the Board of Health on May 30 Dr. G. M. Cooper was unanimously made Acting Secretary for an indefinite period of time to succeed Dr. Rankin. During the year Dr. E. F. Long resigned as director of county health work and Dr. C. N. Sisk, who had been assistant to Dr. Long, was placed in charge of county work, without an assistant.
1926. On June 21 Dr. Charles O'H. Laughinghouse, a member of the Board, was elected permanent Secretary and State Health Officer to fill the unexpired term of Dr. Rankin. Dr. Laughinghouse accepted and took office October 1. Dr. G. M. Cooper, who had for sixteen months administered the work of the Board as Acting State Health Officer, continued with the service and was assigned to the Bureau of Health Education succeeding Dr. M. L. Townsend, who resigned. On August 6 Dr. Richard H. Lewis died. Dr. Lewis had served as a member of the Board since 1885, and from 1892 to 1909 he served as Secretary of the Board. Since 1909 he had been a member of the executive committee. Dr. Lewis held his membership on the Board by appointment from the Governor. To fill the term of Dr. Lewis, expiring in 1931, Governor McLean appointed Dr. John B. Wright, of Raleigh. Among other reasons assigned for this appointment, the Governor stated that it had been the rule since the Board of Health was established to have at least one of the members of the Board a resident of Raleigh.
- When Dr. Laughinghouse resigned, in order to accept the election to the position of State Health Officer by his fellow members on the Board, the remaining members of the Board elected Dr. W. S. Rankin, of Charlotte, former Secretary of the Board to succeed Dr. Laughinghouse.
1927. There were no changes in personnel or in staff organizations during the year 1927. The most important event occurring this year was the death of Dr. J. Howell Way on September 22. Dr. Way had been a member of the Board for many years and had been President of the Board for a long time. Governor McLean appointed Dr. C. C. Orr, of Asheville, to succeed Dr. Way. At the first meeting of the State Board of Health following the death of Dr. Way, Dr. A. J. Crowell, of Charlotte, was made President of the Board. In April of this year Dr. W. S. Rankin resigned as a member of the Board, and Dr. L. E. McDaniel, of Jackson, was elected by the other members of the Board to succeed Dr. Rankin.

1928. Dr. J. C. Johnson, who had been director of the Oral Hygiene Division, resigned as director of the oral hygiene work of the Board, effective December 31.

During this year a corps of nurses employed in the Maternity and Infancy Division of the Board, one-half of whose expenses were paid by the Federal Government from Sheppard-Towner funds, held midwife classes in about thirty counties of the state. The nurses gave special instruction to midwives in groups, and the county authorities enacted midwife rules and regulations for the control of their practice.

The educational work of the Board was of a high order during this year. A thirty-two page *Bulletin* was issued monthly, and a moving picture machine with several films on modern health subjects was exhibited in many sections of the state.

1929. With aid secured from the International Health Board, the Life Extension Division was added to the activities of the Board this year. Dr. Frederick R. Taylor, of High Point, was made director of this division. Dr. Taylor carried this work before the medical profession in all sections of the state.

On January 1 Dr. Earnest A. Branch accepted the appointment as director of the Division of Oral Hygiene to succeed Dr. J. C. Johnson, resigned. Dr. Branch immediately set in motion reorganization plans for the oral hygiene work to include more lectures and more educational demonstration work. Dr. Branch made contacts with several of the colleges of the state and training schools for teachers.

Expenditures for the Board work this year reached the highest peak in the history of the Board, totaling about \$486,000. There were no significant changes, other than those mentioned above, in personnel during the year.

1930. This year marked many significant changes in the affairs of the State Board of Health. Early in the year Dr. C. N. Sisk, director of county health work, resigned. Dr. D. A. Dees succeeded Dr. Sisk as director of county health work. Soon after the resignation of Dr. Sisk, Dr. F. M. Register, director of the Bureau of Vital Statistics, resigned, and the work of that bureau was assigned to Dr. G. M. Cooper, in connection with his work as director of health education. On August 26, Dr. Chas. O. H. Laughinghouse, State Health Officer, died. Soon after his death, in a meeting of the Board, Dr. H. A. Taylor was made Acting State Health Officer. On September 24, following the death of Dr. Laughinghouse, the Board elected Dr. W. P. Jacocks State Health Officer to succeed Dr. Laughinghouse. On November 20 Dr. Cyrus Thompson, for many years a member of the Board, died. On December 16 the Board met and unanimously elected Dr. James M. Parrott, of Kinston, as a member to succeed Dr. Thompson.

1931. At the beginning of this year, Doctor Jacocks having declined to accept the position of State Health Officer, to which he had been

elected by the Board on September 24, 1930, a bill was introduced in the Legislature abolishing the State Board of Health as then constituted. This bill was passed and became law during the session of 1931. With the enactment of the new law the terms of the members of the old Board were automatically terminated. Under this new law governing the state health work, legislative machinery providing for the establishment of a new organization to carry on the public health work of the state was enacted. The new law differs in many respects from the old law under which the Board had operated for so long. However, the most important provision of the old law was retained; that is, the non-political character of the Board and the retention of the permanency of the policies of the Board, although shortening the terms of office and making it impossible for the Board to become a self-perpetuating machine.

The important provisions in the new law under which the Board of Health work is now operating are as follows: The Governor still retains the power to appoint five of the nine members of the Board, the maximum term of office being four years instead of six, as under the old law. The Medical Society of the State of North Carolina still retains the power to elect four of the nine members of the Board, the same conditions as to term of office to obtain here as in those appointed by the Governor. It was recommended to the Governor, although not written into the law, and Governor Gardner accepted the suggestion, that he appoint one member from the State Dental Society and that he appoint a man recommended by that society. This is equivalent to allowing the State Dental Society to name one of the members, but still leaves the balance of power in the hands of the Governor. This seems to be a very satisfactory arrangement.

Another important change is that the Board still elects the State Health Officer, but it can only become effective upon the approval of the Governor. The term of the State Health Officer, along with members of the Board of Health, was restricted to four years.

Following the adjournment of the Legislature, the Governor appointed the following named members: Drs. J. T. Burrus, High Point; H. Lee Large, Rocky Mount; J. N. Johnson, Goldsboro, the dental member; Professor H. G. Baity, of the University of North Carolina and Mr. J. A. Goode, a druggist in Asheville. The State Medical Society at its first meeting after the adjournment of the Legislature elected the following physicians to membership: Drs. James M. Parrott, Kinston; Carl V. Reynolds, Asheville; S. D. Craig, Winston-Salem; L. B. Evans, Windsor.

It will be noted that Dr. Parrott was the only member of the outgoing Board honored with election to membership on the new Board.

On May 28 the new Board met and organized. On that day it unanimously elected Dr. James M. Parrott State Health Officer. Dr. Parrott took the offer under consideration for a period of two

weeks. On June 11 the Board met again. Dr. Parrott accepted the election and agreed to assume office on July 1. Dr. Parrott resigned his membership on the Board before being elected to the position of State Health Officer, and under the provisions of the new law the executive committee of the State Medical Society selected Dr. G. G. Dixon, of Ayden, to serve in Dr. Parrott's place until the 1932 meeting of the State Medical Society. It will be noted that this is an important variation from the provisions of the old law. Under the old law the other members of the Board held the authority to name a successor, whether a member resigned or died. Under the new law the Governor names his vacancies in his list and the executive committee of the State Medical Society is permitted to name a successor to serve only until the first meeting of the State Medical Society following.

In the meeting of June 11 the Board found it necessary to eliminate some members of the staff and to make some consolidations, on account of reduced appropriations for the Board work. The services of Dr. D. A. Dees and Mr. R. B. Wilson were dispensed with, effective July 1. The Board reorganized the staff and made many consolidations. The new reorganization follows:

The Board reorganized the work into divisions, making many consolidations and increasing the duties of the directors of each division. Following are the divisions organized: Administrative Officer, Dr. James M. Parrott; Director Division of Laboratories, Dr. C. A. Shore; Director Division of Preventive Medicine, Dr. G. M. Cooper; Director Division of Oral Hygiene, Dr. Ernest A. Branch. The Division of County Health Work and Epidemiology was temporarily assigned to Dr. H. A. Taylor, but on August 3, Dr. Taylor resigned and Dr. John H. Hamilton, health officer of New Hanover County, was appointed director of this division. The position of director of Division of Sanitary Engineering was filled on July 14 by electing Mr. Warren H. Booker, who had formerly headed that work, to succeed Mr. H. E. Miller.

The election of Dr. Parrott was received throughout medical and public health circles of the entire state with enthusiasm. Under his able direction the work of the Board during the last half of this year moved with a precision which was gratifying to all the friends of public health work in the state.

1932. The year 1932 was uneventful in public health work. The term of none of the members of the Board expired this year, but all members continued their service just as the Board was constituted at the close of 1931.

The International Health Board awarded a scholarship to Dr. J. C. Knox for a year's special Public Health Work at Harvard and to R. T. Stimpson for a year's special work in the School of Hygiene at Johns Hopkins.

Following the very favorable reception of Doctor Parrott's annual report at the conjoint session of the State Board of Health and the State Medical Society, which was presented at Winston-

Salem in April, the work of the Board was carried on on all fronts with satisfactory results, although on account of reduced appropriations many activities carried on in previous years had to be curtailed or definitely eliminated.

The death rate in North Carolina for 1932 was 9.6 per 1,000 population. This is the lowest death rate ever before recorded in North Carolina. The trend in typhoid fever death rates has been consistently downward from 1914 to 1930. This year there were three more deaths than in 1931, there occurring a total of 158 deaths from typhoid fever. The increase in population, however, offset the slight increase in number, and the rate recorded was slightly lower than in 1931. The cases and deaths from diphtheria this year were also the lowest of any previous year, although progress in the elimination of these diseases has not been so satisfactory as it should have been. Deaths from pellagra continue to show a marked decline.

This year is the third year of the so-called financial depression, and it is too early to record any opinion as to what effect unemployment, decreased income and rather widespread suffering may have on the health of the people of the state. It is not too much to say, however, that the effect will be felt more severely by the children than by any other class of the population.

The infant mortality this year was 66.4 per 1,000 live births. This is so far the best record the state has ever made. The maternal mortality remains high, and indications are that with decreased expenditures for maternal and infant hygiene the rate, particularly for infant deaths, will rise again, pushing the state back among those having an excessive infant death rate.

Expenditures for this year for all purposes by the Board were \$315,276, of which amount \$262,438 represented appropriations. This amount was just a little more than half the total expenditures made by the Board of Health for the fiscal year ending June 30, 1930.

1933. The event of outstanding importance to the Board of Health this year was the death of Dr. C. A. Shore, which occurred on February 10. For twenty-five years Doctor Shore had been director of the State Laboratory of Hygiene. He had built the work of the laboratory during these years up to a point where its prestige and usefulness were equal to that of any other public health laboratory in America.

Doctor Shore served longer as a member of the executive staff than any other man who has ever been connected with the State Board of Health with the exception of Drs. R. H. Lewis and Geo. M. Cooper. He held the confidence and esteem of the medical profession as well as the general public to a marked degree. He was a man of extraordinary ability, and much of the success of the public health work in North Carolina may be attributed to his fine and wholesome service.

Suitable tribute has been paid to Doctor Shore and recorded in other publications of the Board and of the State Medical Society,

One event in this connection, however, should be recorded here, and that is that by legislative action all buildings of the State Laboratory of Hygiene are hereinafter to be known as the Clarence A. Shore Laboratory, in memory of his distinctive service.

A few weeks after the death of Doctor Shore, Dr. John H. Hamilton, director of County Health Work, of Vital Statistics, and of Epidemiology, was made director of the laboratory work. Doctor Hamilton, on assuming his duties as director of the Laboratory, resigned the duties of director of County Health Work and of Epidemiology, but retained, however, with the assistance of Dr. R. T. Stimpson as statistician and field director, the Bureau of Vital Statistics. Dr. D. F. Milam, a consultant assigned to the State Board of Health by the International Health Board, was made acting director of the Bureau of Epidemiology in place of Doctor Hamilton. Doctor Milam had as his assistant Dr. J. C. Knox. Dr. M. V. Ziegler, consultant assigned to the Board by the United States Public Health Service, assumed the duties of acting director of County Health Work to succeed Doctor Hamilton. During this year Mr. W. D. Riley, assigned to the work as Venereal Disease Control Officer by the United States Public Health Service, organized his work and succeeded in making an important contribution to the work of the Venereal Disease Control in North Carolina.

The following changes in personnel of the State Board of Health took place during this year: Dr. W. T. Rainey, of Fayetteville, was elected by the State Medical Society for a four-year term to succeed Dr. L. B. Evans, of Windsor, whose term expired this year. Dr. S. D. Craig was reelected for a term of four more years. The Governor reappointed Dr. J. N. Johnson, dental member of the Board, for another term, which will expire in 1937. The Governor appointed Dr. Hubert B. Haywood, of Raleigh, for a four-year term, to take the place of Dr. J. T. Burrus, of High Point. The Governor also appointed Mr. James P. Stowe, a druggist of Charlotte, for a four-year term, expiring in 1937. Mr. Stowe succeeded Mr. J. A. Goode, a druggist of Asheville. Dr. Carl V. Reynolds succeeded Dr. Burrus as President of the Board. On July 1, Drs. Knox and Stimpson returned to the Board work and resumed their places after satisfactorily concluding their year's scholarship work at Harvard and Hopkins, respectively.

The year was not marked by any widespread outbreak of epidemic disease, and notwithstanding a continuation of the financial depression, the work of the State Board of Health held up fairly well. The appropriations being lower this year than before for many years, much of the personnel service had to be reduced. A material reduction in state aid to County Health Work caused considerable contraction of the activities of County Health Department Work, but for the most part the morale of State Board of Health employees as well as the county health employees held up remarkably well.

The Legislature, meeting for an extended session following its opening in January, made drastic reductions in appropriations to all state health work and reduced the salaries of all state health employees. This was said to be necessary in order to balance the state budget and to maintain the state's credit.

The total expenditures for the Board of Health this year, that is, for the fiscal year ending June 30, were \$291,786. Of this amount \$225,274 was appropriated by the Legislature. It will be noted that this sum was less than half the amount appropriated and spent for the fiscal year ending June 30, 1930.

1934. The event of greatest importance to the State Board of Health and to the health work throughout the state in this year was the death of Dr. James M. Parrott and the election of Dr. Carl V. Reynolds as his successor. Dr. Parrott assumed the duties of State Health Officer on July 1, 1931. He had thus served a little more than three years and four months at the time of his death. Dr. Parrott was the first State Health Officer to serve under the new, or reorganized, Board of Health. He was stricken with an attack of angina pectoris early in December, 1933. The last eleven months of his life, therefore, were ones of recurring illness and courageous fortitude in remaining at the helm of the Board of Health work. On the occasion of the first illness, with the consent of the members of the State Board of Health, he designated Dr. G. M. Cooper as Acting State Health Officer to be the responsible head of the work in such periods as he was physically unable to attend to the duties of the office. The following sketch, concerning Dr. Parrott and his work, written by the Editor, was published in the *Health Bulletin*.

"The death of Dr. James M. Parrott, State Health Officer of North Carolina, occurred on Wednesday evening, November 7, 1934. Doctor Parrott had been health officer of North Carolina for a little more than three years. He was so active mentally and so near and dear to his co-workers here at the office that to me, even yet, it seems impossible and unbelievable to think that he is dead. Nearly thirty years ago I 'took' the State Board examination for license to practice medicine. He was a member of that board. From then on I looked on him as one of the big men in the medical profession. He held every office within the gift of his profession and loved it and served its interests with a passionate devotion.

"He took over the direction of the work of the State Board of Health in one of the darkest hours in the history of the Board. He brought to the affairs of the Board a new kind of leadership, a fresh outlook, a new viewpoint, and a breadth of vision which served notice on the world that the Board had a resourceful and able executive in charge. Although he came to the Board work without previous experience in an administrative capacity of this type, and knowing little or nothing of the practical workings of a modern public health organization, his chief contribution.

which will be duly recorded in the history of this period, to the cause of public health advancement was his stand for the professionalization of public health work.

"Before he had been here sixty days, he realized that all department divisions as well as all county health offices should be manned by physicians technically trained and experienced in public health work. It became necessary for him to oppose the ambitions of some of his lifelong friends in the medical profession, which hurt him; but it may be said to his credit that he stood four-square for competently trained men as public health officials.

"On assuming office, he realized that he had some very unpleasant duties confronting him in reorganizing the work of the Board. He soon demonstrated that he had convictions and the courage to back them up. When he laid down his armour for the great adventure, he left an organization of his own building functioning at top speed. He proved to his fellow workers here that he was tolerant to everything but laziness and lying and inefficiency. Being a man of clean personal life, and governed in all his actions by a strict sense of honor, he naturally expected such qualities in his staff and other subordinates.

"For the past year he struggled against the malady which finally ended his life, and at the same time he felt keenly his official responsibility. He knew all during that last year that, in justice to himself and his family, he should resign and be relieved of the extra tax on his failing strength. On the other hand, he felt that his work was not quite done. He saw many essential features of public health work sacrificed to a program of questionable economy. He did not question the good intentions of the Governor, the Budget Bureau, nor the Legislature, but he felt that the time had come to put an end to the further needless sacrifice of human life for the lack of intelligent preventive efforts. He had a conviction that the incoming General Assembly would see eye to eye with him. He was ready to submit a program of far-reaching importance to the people of the state. It could not be. His big brain is forever inactive. His profound knowledge of the public health needs of the people is left for his successor to acquire for himself.

"No man could build for himself a better monument than Doctor Parrott did in the record of worth-while work well done. In his death the state loses an honest public servant, and I lose a warm and understanding friend whose confidence was more precious to me than the riches of Araby."

Following Dr. Parrott's death, the State Board of Health assembled in Raleigh on November 10, 1934, and unanimously elected Dr. Carl V. Reynolds, who at that time was serving as President of the Board, to the position of State Health Officer and Secretary and Treasurer of the State Board of Health. Dr. Reynolds immediately accepted and assumed his duties at once. The following Editorial appeared in the *Health Bulletin* in Jan-

uary, 1935, concerning Dr. Reynolds and his work. It is herewith reproduced in order that this chronological record may be complete.

"Dr. Carl Vernon Reynolds, of Asheville, on November 10, took the oath of office and immediately assumed his duties as Acting State Health Officer, succeeding Dr. James M. Parrott, who died November 7. Doctor Reynolds was unanimously elected to the position by his fellow members on the Board.

"Doctor Reynolds is a native of Asheville. His father was a successful Asheville physician who died when Doctor Reynolds was only three years old. Dr. Reynolds obtained his literary education in the private schools of Asheville and Wofford College, Spartanburg, South Carolina. He received his medical education at the college of the City of New York, graduating in medicine there in 1895. After his graduation he took a postgraduate course in London, England. Doctor Reynolds located in Asheville for the practice of medicine, specializing in pulmonary tuberculosis. His skill in combatting that disease has been widely recognized by the medical profession. An example of their confidence was his election as president of the North Carolina Medical Society, in which place he served with distinction in 1920.

"On beginning practice he at once became interested in health work. His first connection was with the city health department in 1896. Following that period, for more than twenty years he served as city health officer of Asheville, in which capacity he rendered his city and the whole state important and permanent service. Some of his contributions to public health may be cited as follows:

"He organized the first crusade against the common housefly ever undertaken anywhere.

"He assisted in drafting the first milk ordinance for Asheville.

"He secured progressive sanitary laws.

"He put through the compulsory vaccination law requisite to school attendance.

"He secured the adoption of a bread-wrapping ordinance and one requiring the tuberculin testing of cows.

"He saw typhoid fever drop from an average of two hundred and seventy cases a year in the city of Asheville to about five while he was city health officer, and saw smallpox practically eliminated.

"We enumerate these things so that the people of the state may know they have a well-trained health officer at the head of the State Health Department—one fully worthy of confidence and support."

The general routine work of the State Board of Health during this year was satisfactory and successful in every way. Dr. D. F. Milam, who had been loaned to the State Board of Health by the International Health Board and who had been acting as State

Epidemiologist, was transferred to other fields and on the first of July Dr. J. C. Knox, who had been Assistant in the Division of Epidemiology, became State Epidemiologist.

Dr. M. V. Ziegler, of the United States Public Health Service, who had also been loaned by that organization as a consultant in the Division of County Health work and who had been Acting Director of that Division, was transferred back to Washington about the first of September. Dr. R. E. Fox, who had completed a postgraduate course in the Public Health School of Harvard University, was made director of the Division of County Health Work.

Dr. R. T. Stimpson, who had also successfully completed a postgraduate course in the School of Public Health of Johns Hopkins University, and who had been acting as Assistant in the Department of Vital Statistics, was made Director of that Division.

On November 10, at the time Dr. Reynolds was elected State Health Officer, Dr. G. M. Cooper was elected Assistant State Health Officer. Dr. Reynolds, of course, had to resign from his place on the board in order to accept the office of State Health Officer. To succeed him as President, Dr. S. D. Craig of Winston-Salem was elected to that position. Dr. J. N. Johnson of Goldsboro, dental member of the Board of Health, was elected to the place of Vice President of the Board. The law provides that in case of a vacancy occurring on the State Board of Health among the membership elected by the State Medical Society, that the Executive Committee of the Medical Society of the State of North Carolina shall have the authority to appoint a successor to serve until the next ensuing meeting of the State Society. In this case, the vacancy coming so close to the annual meeting of the State Society and the Board of Health on the following May 1 and there being no regularly scheduled meeting of the Executive Committee of the State Medical Society, it was decided to defer the election of a successor to Dr. Reynolds to the meeting of the Society the following May 1.

1935. Dr. Carl V. Reynolds served as Acting State Health Officer, the Governor having deferred the approval of his election the previous November 10, 1934, but at the annual meeting of the State Board of Health, which was held in Pinehurst May 7, 1935, Dr. Reynolds was unanimously elected State Health Officer. His election was for a full four-year term to begin on the first of July following. The Governor immediately approved the election of Dr. Reynolds to be State Health Officer for the full term as stated.

At the meeting of the conjoint session at Pinehurst on Wednesday, May 8, Dr. Grady G. Dixon was reelected to succeed himself to membership on the State Board of Health for a term of four years.

Dr. J. LaBruce Ward of Asheville was elected for the four-year term to succeed Dr. Carl V. Reynolds, resigned.

In this year an important development in public health work was the experimental course put on in the school year of 1934-1935 at the University of North Carolina, under the auspices of the Public Health Administration, of a course of instruction designed to prepare physicians for positions as health officers. The courses in this school met with such success, plans were perfected to enlarge the scope of this new school as a part of the Medical School at the University. A fuller description of the inauguration of this school will be found under the records for 1936.

During this year following the enactment of the National Social Security law, plans were worked out for an expansion of the work of all the divisions of the State Board of Health, through financial aid coming through the Children's Bureau and the United States Public Health Service at Washington. It was a year which noted much activity in public health work all throughout the state, and the perfection of plans, state and local, for extending health department activities.

A Division of Industrial Hygiene was tentatively established in September of this year. The organization of this division resulted from an amendment to the Compensation Laws of the state by the 1935 General Assembly. This legislation made disablement or death by occupational disease interpretable as an injury by accident and thus compensable. For the execution of this legislation a sum of \$10,000 was appropriated by the Legislature. The Industrial Commission appreciating that a problem of preventive medicine was involved, engaged in a series of conferences with the State Board of Health and Officers of the United States Public Health Service. The discussions culminated in the \$10,000 appropriated for the administration of the occupational disease legislation being placed at the disposal of the State Health Officer. With this money, an Industrial Hygiene program was inaugurated as an activity of the State Board of Health. This arrangement was made with the understanding that the work would be subsidized by the United States Public Health Service when Social Security funds should become available. To begin the work of this division and to prepare the program for enlargement to its full scope, Dr. H. F. Easom of the State Sanatorium for Tuberculosis Medical Staff was selected as the Director of the division. Mr. M. F. Trice, formerly in the Division of Sanitary Engineering of the State Board of Health, was made Engineer of this new division.

1936. What may be termed the outstanding event of importance for the first half of this calendar year covered in the period of this report may be said to be the definite establishment of the new public health department at the University of North Carolina and the selection of Dr. Milton J. Rosenau as its director. This new department, of course, is an integral part of the School of Medicine

of the University of North Carolina. The March issue of the *Health Bulletin* published the following descriptive news item of the inauguration of this department:

"The most important development in public health circles in many years for this section of the South is the establishment at Chapel Hill of a department of public health in connection with the School of Medicine, and the selection of Dr. Milton J. Rosenau as its director. This development has been made possible by the coordination of the staffs of the faculties of the North Carolina State Board of Health and the schools of medicine and engineering of the University of North Carolina.

"The new department, while an integral part of the University School of Medicine with Dr. C. S. Mangum, Dean, will be under the personal direction of Dr. Rosenau. Dr. Rosenau is generally regarded as America's foremost authority on public health. His books on preventive medicine are used everywhere as standard textbooks in all schools of public health. Until his retirement recently from that faculty he had been head of the famous Harvard School of Public Health for many years.

"For a long time the officials of the State Board of Health have worked hard to secure the establishment of such a school. The necessity for it has been apparent to all responsible health workers. The chief credit for success in launching the enterprise should go to Dr. Charles S. Mangum, Dean of the University Medical School, and to Dr. Carl V. Reynolds, State Health Officer. Both of these officials have worked hard and cooperated with each other in overcoming all difficulties in the way of the establishment of the new department.

"In the opinion of Drs. Mangum and Reynolds the development was in part made possible by the success of the course put on in the school year of 1934 and 1935 at the University under the auspices of the School of Public Administration. The first course put on with the teaching aid of the Schools of Medicine and Engineering of the University and members of the staff of the State Board of Health comprised a course of instruction for physicians in public health administration and extended over a period of twelve weeks. The work was so excellently done that they received recognition from the United States Public Health Service which assigned several of its applicants for postgraduate work to take the second course.

"We hope and believe that this enterprise under Dr. Rosenau's direction will expand into one of the most important departments of public health education in the entire country. The need for special training for physicians who want to enter public health work is great. Efficient public health departments, National, State and local in modern conditions of living are an absolute necessity. There are large numbers of young physicians who with proper postgraduate training could make excellent health officers.

"The success of the new department at Chapel Hill will go a long way toward establishing an efficient system of public health work on a sound basis throughout the entire southeastern section of the country."

On February 1 of this year, funds from the Social Security Act became available to the State Board of Health through the Public Health Service and the Children's Bureau at Washington. In addition to adding a division of field training of public health nursing in connection with the new department of public health at the State University, a department of Public Health Dentistry was also established in connection with the Public Health School at Chapel Hill. This is said to be the first school of like character in the country. The County Health Department was enabled through the Social Security subsidy from Washington to aid all the whole time county health departments in an expansion of their work. The Division of Preventive Medicine employed Mrs. J. Henry Highsmith to begin work on February 20 as an Assistant in the field of health education. The work of this division, of course, took on enlarged activities. Plans were immediately set in motion to establish special county nurses in counties having no whole time health organization as special demonstration service for such counties. Plans were also launched to establish Maternity and Infancy Centers in many sections of the state as Demonstration Centers, looking toward an eventual lowering of the infant and maternal death rates in this state.

A sum of \$17,500 of Social Security money was appropriated by the United States Public Health Service for the Division of Industrial Hygiene. Dr. M. T. Plyler was employed as an Assistant Medical Director in that division and Mr. C. R. Matheson as a Medical Technician. Both of these men had been employed on the staff of the North Carolina Tuberculosis Sanatorium. Up to the first of July more than 150 plants involving siliceous dust hazards had been surveyed. The entire asbestos industry in the state involving five plants had been studied, in cooperation with the United States Public Health Service, a granite cutting establishment investigation made, and a foundry study inaugurated. There were 525 asbestos textile workers and 46 granite cutters examined during the investigatory work. In addition, preemployment examinations have been made of approximately 400 workers. All persons examined have X-ray films made of their chests. During this work nearly 300 atmospheric dust samples were analyzed. During the period, the physician and the engineer attended a four weeks' special course on Industrial Hygiene given by the Public Health Service in Washington. The division has installed a complete office equipment, as well as portable equipment necessary for successful execution of this important work. The new division is housed in the basement of the State Board of Health Building.

On April 1 of this year, the State Board of Health established a service for crippled children. This followed the approval in late

March of the North Carolina Plan for Crippled Children prepared by the State Board of Health and submitted to the United States Children's Bureau. This plan was a prerequisite of the Children's Bureau toward participation by the state in the distribution of Social Security appropriations for this purpose. Dr. G. M. Cooper of the Division of Preventive Medicine was designated as Medical Director of this service, and Mr. J. T. Barnes was employed by the State Board as State Supervisor in charge of administrative duties of this service. An advisory committee representative of the medical, health, welfare, and lay interest of the state in the problem of the crippled child was formulated to advise in the execution of this program. Prior to June 30, public clinics were arranged in various centers of the State under the direction of the State Board of Health. Cooperation had been arranged with the North Carolina Orthopedic Hospital and was being carried out satisfactorily.

Under the provision of the Children's Bureau regulations, an advisory committee was secured by the Director of the Division of Preventive Medicine for the purpose of advising from time to time on the general program of maternal and child health service work. This committee held its first meeting on March 27 at the State Board of Health in Raleigh. Representatives from the following organizations were present: State Medical Society, State Dental Society, State Public Health Officers Association, State Nurses Association, State Federation of Women's Clubs, State Parent-Teacher Association, State Welfare Department, Division of Pediatrics and Obstetrics of the State Medical Society. On or before June 30, the enlarged program of all the divisions of the State Board of Health was well underway.

1937. There was no event of outstanding importance occurring in the year 1937. Few changes in the staff or the sub-staff of the State Board of Health have occurred. Following the expansion of service throughout the year 1936 with the aid of Social Security funds coming through the United States Children's Bureau and the United States Public Health Service at Washington, a tremendous amount of work was done during the entire year 1937 in expanding the work of the health department throughout the State, an increased number of nurses were employed, additional county health departments were established and more intensive efforts were made along all lines than in any previous year. The new School of Public Health Administration at the University of North Carolina under the direction of Dr. Milton J. Rosenau, aided materially by Dr. Carl V. Reynolds, State Health Officer, and the faculty of the Medical School of the State University, made substantial and satisfactory progress. An increasing number of sanitary engineers, sanitary inspectors, and health officers from this State and other states in the southeastern regional territory were trained at Chapel Hill.

An Advisory Committee of leaders in different organizations in North Carolina, including such organizations as the State

Medical and Dental Societies, Public Health Association, Parent-Teacher organizations, Women's Clubs, and the State Nurses Association, together with some independent members of the medical profession in the field of pediatrics and obstetrics and orthopedic surgery, was organized and held its first satisfactory meeting during this year.

Dr. T. C. Worth joined the staff of the Division of Preventive Medicine on September 21, 1936, and served until April 15, 1937, in the capacity of assistant to Dr. Cooper. Dr. Worth aided materially in assisting in the organization of Maternity and Infancy Centers in some forty counties of the State and contributed a great deal toward strengthening the department work. Upon Dr. Worth's departure on April 15 to continue his postgraduate education in Boston, Dr. Roy Norton, who had been with the Division of County Health Work for about a year, and was formerly health officer of Rocky Mount, succeeded Dr. Worth. Miss Mabel Patton, a qualified nurse, joined the staff of the Division of Preventive Medicine as a consultant nurse representing the Children's Bureau. Dr. W. J. Hughes, a colored physician whose services for work in the health education field in the Department of County Health Work was made possible through contribution by the Rosenwald Fund and who joined the staff on January 1, 1936, was able to achieve substantial progress in his work with the colored population of the State. This was the first time a colored physician had been admitted to membership on the sub-staff of the State Board of Health, and the result of work in 1936 and 1937 have fully justified his employment. Dr. R. L. Robinson joined the sub-staff of the Division of Industrial Hygiene on April 1, 1937, to succeed Dr. M. T. Plyler of that Division. Mr. W. H. Richardson, an experienced newspaperman who at one time was Secretary to Governor Morrison for his four years in the Governor's office, joined the Administrative Staff in the department exclusively conducted by the State Health Officer. Mr. Richardson has been a valuable addition to the staff and he has succeeded remarkably well in interpreting technical problems to the lay readers in hundreds of articles in the daily and weekly press of the State. Dr. G. M. Leiby, who had been Assistant District Health Officer in the Haywood-Jackson-Swain District with headquarters at Bryson City, joined the sub-staff of the Department of Epidemiology in the fall of 1936 and after some field experience was sent to the Hopkins School of Public Health for a year's special studies in syphilology. Dr. F. S. Fellows of the United States Public Health Service was loaned to the State Board of Health as consultant in the Department of Epidemiology in the field of venereal disease control. Miss Margaret Thompson, who holds a master's degree in home economics and nutrition work from the University of Iowa, joined the sub-staff of the Division of Preventive Medicine in October, 1937. On March 15, 1937, Miss Frances R. Pratt, a specially trained nurse under the auspices of the State Maternal Health League, joined the sub-

staff of the Division of Preventive Medicine. Miss Pratt's work was financed by an individual contribution from an outside agency. Her work has been to organize through the medical profession and the local health officers on a voluntary basis a system of contraceptive control work when based on medical needs. Her work has been very successful and it has been a welcome and needed addition to the staff work.

On December 16, 1937, following Legislative Provision in the 1937 session of the Legislature, \$160,000 in bonds were sold for the purpose of building a new plant for the State Laboratory on the grounds adjacent to the present State Board of Health building on Caswell Square, Raleigh. A PWA grant of about \$130,000 additional was received and work on the building was expected to be completed within the year 1938. A farm of 280 acres on the Raleigh-Cary paved highway was purchased and provision made for farm buildings to care for the animals used in the production of vaccines and serums.

On December 17, a conference of Public Health Officers was called at Raleigh for the purpose of discussing and making decisions concerning various field work, jointly affecting the State and local health departments. This conference was so successful that it was voted to make it an annual affair.

During the year a central general filing system was established and put into effect under the direct supervision of the State Health Officer and the Administrative Division of the Board of Health. This is proving to be a very satisfactory and progressive step.

Malaria was made a reportable disease and a malaria inspection and control unit was established in the Department of Epidemiology July 1, 1937. Effective also in 1937 was the new plan of the Division of Vital Statistics with reference to the notification of birth registration certificates to parents. Instead of waiting for a parent to write to the department to inquire if the birth has been reported and to send 50c for certificate, the plan was adopted of sending to each parent whose baby's birth was reported properly a small neat certificate of the baby's birth. This was through an arrangement with the Bureau of the Census of the United States Government. Franking privileges are allowed in this work. It simply informs parents that their babies' births have been properly recorded and the idea is through this method to reach many of those parents whose babies' birth have never been reported and get them to send in the reports.

There were no changes in the membership of the State Board of Health this year. All members whose term expired were re-elected by the State Medical Society or re-appointed by the Governor, for additional four-year terms.

The total expenditures for the State Board of Health during the fiscal year ending June 30, 1937, were \$881,484.01. Of this amount \$287,747.04 was appropriated by the Legislature, \$191,943.85 was by the United States Children's Bureau, \$312,210.42

by the United States Public Health Service, and finally \$89,582.70 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

1938. During 1938, the extension and consolidation of health work in all departments of the State Board of Health was further accomplished. This year two outstanding events may be recorded. First, the Zachary Smith Reynolds Foundation decided to donate its income from a fund of about seven million dollars to the State Board of Health to aid in a long time program of syphilis control. The initial donation from this fund by the officials of the foundation to Dr. Reynolds was a check of \$100,000. This philanthropy will bring to realization one of the finest dreams of Dr. Carl V. Reynolds, State Health Officer. It promises to enable the State Board of Health to accomplish in the near future some of the objectives that have sometimes seemed to be long years off. A long time before the Government began to realize its responsibility in the prevention of disease and the preservation of the health of its citizens as a means of bringing about better social and economic conditions and the promotion of human happiness, philanthropists such as Rockefeller led the way. This gift of the Reynolds Foundation, however, affords the practical means of enabling the State Board of Health to organize in collaboration with the various city and county health departments of the State an effective system through which the venereal diseases may be eventually controlled in this State.

The other event in the same connection was the passage by the United States Congress early in 1938 of a bill known as the LaFollette-Bulwinkle Bill, sponsored and carried through the lower House of the United States Congress by Representative A. L. Bulwinkle of Gastonia, who has long represented his district in the lower House of Congress. Through the provision of this bill the State was able to receive during the year about \$80,000 additional funds for work in syphilis control. The proceeds of these funds enabled the State Board of Health to attack the ravages of syphilis even in the prenatal stages by treating syphilitic mothers early enough in pregnancy to prevent the birth of hopelessly syphilitic babies. It is probably a fact that the benefaction of the Smith Reynolds Foundation is the largest single gift for this particular purpose that has ever been made by any public or private organization in this country. The cause is not only a worthy one but a pressing one. It takes money to control and eliminate such diseases as yellow fever, typhoid and syphilis.

The School of Public Health Administration of the State University at Chapel Hill has made such material progress that it became necessary on the first of September this year to employ an additional full-time professor in that department. Dr. Roy Norton, who for the preceding fifteen months had been an assistant in the division of Preventive Medicine where he has done excellent work, was persuaded to accept the professorship. The State Board of Health reluctantly agreed to Dr. Norton's transfer

in view of the fact that the School of Public Health Administration is of such far-reaching importance that it should have the services of the very best available talent in the medical profession of North Carolina. Dr. Norton is admirably equipped for this important work. There are now five full-time professors in this division of the University.

Under the persistent work of Dr. Reynolds a stationary exhibit has been erected in the large halls of the central building of the State Board of Health, at Raleigh, an exhibit which is an education in itself. It demonstrates the work of all the departments. Some of the State's foremost artists were called into the work and the officials of the National Youth Administration provided a great deal of the actual work at little cost to the State Board of Health. It would pay any citizen of North Carolina who is interested in the State's progress to visit this exhibit sometime during the year.

With the exception of the loss of Dr. Norton, there have been few staff changes of importance. Dr. R. L. Robinson who came with the Industrial Hygiene Division as a field worker in April, resigned and returned to his home to engage in private practice on the first of August. Mr. C. D. King, Jr., an Industrial Hygiene man, came with the Board in the Industrial Hygiene Division on June 15 as an assistant to Mr. M. F. Trice. Dr. G. M. Leiby returned at the completion of his course in Johns Hopkins University and assumed his duties as field director of the syphilis control program. Dr. Fellows still remains with the board and continues to render valuable assistance.

The officials and employees of the Department of Preventive Medicine were saddened this year on account of the death of two veteran nurses. Miss Katherine Livingston died on May 26 and Mrs. Margaret Sloan died on July 12. Both of these nurses had rendered valuable service in this Division for many years.

There were no expiration of terms of service of the membership of the State Board of Health this year, therefore no changes in personnel occurred.

In March, 1938, the Board received a report from a committee previously appointed to study pneumonia. The committee headed by Dr. H. B. Haywood of Raleigh as chairman, Drs. W. T. Rainey and G. G. Dixon from the Board, with Doctors Fred Hanes, C. T. Smith, as consultant, and C. V. Reynolds, ex-officio, made a full report. Arrangements were made through Dr. Hanes of the Duke Medical faculty for a special course to train local technicians which was largely attended.

An important piece of field work which met with wide-spread appreciation throughout the State this year was a series of 34 health institutes for teachers and principals of schools in as many places representing the State. Eight thousand teachers and principals attended these Institutes which were of a practical character. The Institutes were conducted under the joint auspices of the State Board of Health, State Department of Public Instruction

and the Extension Service of the North Carolina State College. The officials who executed this piece of work were Dr. Roy Norton and Mrs. H. P. Guffy, nurse, of the State Board of Health, Miss Mary Thomas, nutrition specialist of the State College Extension Service, Mr. H. A. Perry and Mr. Charles E. Spencer of the State Department of Public Instruction. This work was under the general supervision of Doctors Reynolds and Cooper of the State Board of Health, and it was carried out under the health education division of the Board, and Dr. J. Henry Highsmith of the State Department of Public Instruction.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1938, were \$1,041,895.98. Of this amount \$353,953.55 was appropriated by the Legislature, \$226,-297.57 by the United States Children's Bureau, \$337,914.39 by the United States Public Health Service, and \$123,730.47 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

Dr. Roy Norton, who for nearly two years had been assistant director in the Division of Preventive Medicine, resigned to accept the position of Professor of Public Health Administration in the School of Public Health in the University of North Carolina. Dr. Norton's resignation was effective September 1. A successor to Dr. Norton was not appointed during the remainder of the year.

Beginning with July 1 of this year, the following counties set up whole time health department organizations: Alamance, Alleghany, Ashe, Davie, Polk, and Union. On September 1, Catawba, and September 16, Cleveland. On November 1, Currituck became a member of the district health department with Dare and other counties.

1939. In the Division of Sanitary Engineering, John D. Faulkner returned to the department to resume his work after taking a year of public health engineering training at the University of Michigan.

Mr. James P. Stowe of Charlotte, for many years a member of the State Board of Health, died on February 12. The Governor later appointed Mr. C. C. Fordham, Jr., a Greensboro druggist who promptly qualified as a member of the Board. During the year there were no other changes in the personnel of the Board. All members whose term expired were either reelected by the State Medical Society or reappointed by the Governor.

On August 7, Dr. John S. Anderson was appointed as a member of the staff as consultant in public health administration in the Division of County Health Work. Dr. Anderson had previously served as county health officer in Craven and Cabarrus counties.

On December 31, Miss Josephine Daniel resigned as consultant in public health nursing in the Division of County Health Work and accepted an appointment as director of public health nursing with the Oklahoma State Department of Health.

On December 15, Dr. George M. Leiby, venereal disease consultant, resigned his position with the Division of Epidemiology to accept the position of director of venereal disease control in the City of Washington, D. C.

On June 13, Dr. H. F. Easom resigned as director of the Division of Industrial Hygiene to return to the North Carolina Sanatorium as clinic physician. He was succeeded effective October 15, by Dr. T. F. Vestal, a native of Randolph County, formerly a member of the Sanatorium clinical staff.

During the year, construction work was started on the new central Laboratory on Caswell Square adjoining the administrative building of the State Board of Health. Also, Construction work was begun on the buildings on the State Laboratory farm between Raleigh and Cary.

In the Division of Preventive Medicine, Mrs. J. Henry Highsmith resigned her position as health educator, effective October 1. Mrs. Highsmith's resignation was very reluctantly accepted. Off and on Mrs. Highsmith had been connected with the State Board of Health for many years. She has rendered invaluable service in the health education work of the Board.

In the early months of the calendar year of 1939, plans were matured after two or three years' efforts, attended by frequent conferences of all concerned, by the State Health Officer and the State Superintendent of Public Instruction, for the establishment of a service through which the facilities of the State Department of Education and the State Board of Health for the execution of a unified health service in the public schools of the State might be further integrated. Inauguration of this plan was made possible by a supplementary grant of \$50,000 by the Rockefeller Foundation and the General Education Board to be spent over a five-year period, commencing July 1, 1939. The official designation of this organization is the North Carolina School Health Coordinating Service. The organization as a whole consists of an Advisory Committee and a full-time operating staff. The Advisory Committee consists of five members: namely, Dr. J. Henry Highsmith, Dr. G. M. Cooper, Dr. C. F. Strosnider, Dr. R. J. Slay, and Dr. Oliver K. Cornwell. The operating staff consists of the following seven members: Dr. Walter Wilkins, Coordinator; Miss French Boyd, nutritionist; Mr. Charles E. Spencer, physical education; Miss Olive Brown, physical education; Miss MacVeigh Hutchinson, nurse; Dr. Walter Hughes, Negro physician; Mrs. Irma N. Henry, Negro health educator. In addition to these regular staff members several nurses from the Division of Preventive Medicine have been assigned to work with the organization for varying periods of time.

Dr. John F. Kendrick was lent to the State by the Rockefeller Foundation to serve temporarily as administrative adviser to this school health coordinating unit. Preliminary plans involving the selection of trained personnel and numerous other organization preparations were undertaken during the months of July and August, 1939, and initial field operations commenced in Stanley

County in September. In addition to Stanly, cooperative work was undertaken in Person, Orange, Chatham, and Wayne counties during the year.

This was the first full fiscal year in which the sum of \$100,000 donated by the Zachary Smith Reynolds Foundation to aid the Board of Health in its syphilis control work was available. This initial donation of \$100,000 in cash to the State Health Officer to be used without strings attached, represents one of the largest gifts ever received by the Board of Health. It has enabled the State Board of Health to put into effect many necessary requirements in the State-wide work control of the spread of syphilis. This money has been used for the specific purpose for which it was allotted. It has been used to employ additional men and women who are experts in their field and for the training of other nurses and physicians to become experts in the work necessary to deal with this enormous problem. This trust fund has enabled the Board to extend its activities in almost every direction and to keep up the official work in such a manner as to make sure a long time successful program which will be necessary to reduce the prevalence of syphilis in this State to a minimum.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1939, were \$1,215,056.80. Of this amount \$364,506.25 was appropriated by the Legislature, \$232,993.80 by the United States Children's Bureau, \$311,859.00 general and \$51,829.11. venereal disease by the United States Public Health Service, \$130,290.49 by the Zachary Smith Reynolds Foundation, and \$123,578.15 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

In this year no changes in the personnel of the State Board of Health occurred. Every member continues to serve to the full extent of his ability, giving unstintedly of his time and efforts to the constructive work of the State Board of Health.

1940. The most important item in the field of public health in this State in 1940 was the completion and dedication of the central building known as the Clarence A. Shore Laboratory of Hygiene. As stated before in this chronology, this new plant costing about \$311,000 was made possible by the selling of revenue bonds and the allocation of a PWA grant and in the acquisition of funds from various sources. The total outlay of \$311,000 represents the cost of the central plant on Caswell Square, completed and equipped, and the cost of the buildings on the Laboratory farm located six miles west of Raleigh. The Shore Memorial Building was dedicated with appropriate ceremonies on February 21, 1940. There were addresses by Governor Clyde R. Hoey, Dr. S. D. Craig, President of the State Board of Health, Dr. Carl V. Reynolds, State Health Officer, Mr. J. W. Kellogg, assistant director of the State Laboratory of Hygiene, Dr. George M. Cooper, Assistant State Health Officer, and Dr. John A. Ferrell, Associate Director of the International Health Division of the Rockefeller Foundation. Dr. John H. Hamilton, Director of the Laboratory, presided over the exercises.

Greetings from neighboring and friendly organizations and institutions were brought by Dr. M. J. Rosenau, Division of Public Health of the University of North Carolina, Dr. W. C. Davison, Dean of the Medical School of Duke University, Dr. W. deB. MacNider, Dean of the Medical School of the University of North Carolina, Dr. E. S. King, Professor of Preventive Medicine of Wake Forest College, Dr. Hubert B. Haywood, President-elect of the Medical Society of North Carolina, Mr. E. C. Derby, Resident Engineering Inspector of the Public Works Administration, Dr. M. V. Ziegler, Senior Surgeon of the United States Public Health Service, Washington, and Dr. John M. Saunders, Regional Medical Consultant of the Children's Bureau, Washington. The entire issue of the April 1940 number of the *Health Bulletin* was devoted to the description of the dedication of the Shore Memorial Building. The issue was increased from the normal sixteen pages to a thirty-two page volume.

The central Laboratory building consists of four stories and is modern in every detail. The State Laboratory of Hygiene farm consists of approximately 280 acres of which 100 acres is under cultivation, the balance in woodland. The farm has a frontage of fifteen hundred and fifty feet on the great United States national highway number one. Both the Seaboard and Southern railways also front it. The buildings on the farm consist of the farm laboratory building, horses and sheep barns and buildings for the production of smallpox vaccine and other biologic products, as well as the buildings for the housing of small animals needed in this work.

On April 1, John D. Faulkner was transferred from the Division of Sanitary Engineering to the Division of Epidemiology to have charge of rodent control work.

John Andrews who had effectively headed the milk sanitation program in the Division of Sanitary Engineering resigned to accept an important position with the United States Health Service in Washington. R. F. Hill, Jr., finished his year of specialized training in sanitary and public health engineering at the University of North Carolina and returned to his duties with the Sanitary Engineering Division.

Effective work has been carried on with the aid of the WPA and United States Public Health Service in the malaria control drainage and community sanitation. Milk sanitation was advanced with a marked increase in the number of pasteurization plants. With the assistance of the aforementioned organizations and the PWA, the installation of new public water systems was brought up to a total of 52 installed during a four-year period ending June 30, 1940. Improvements, additions and extensions were made to a great many of the water and sewage systems of the state.

In the Division of Vital Statistics, there was closer cooperation with the local health departments in an effort to be of mutual assistance in registration. Social Security benefits requiring proof of number and age dependents and necessitating the presentation

of the birth and death certificates has increased the number of verifications and copies of the certificates issued by the division. There were no material changes in the division during the first half of 1940.

On March 1, 1940, Miss Amy L. Fisher succeeded to the vacancy left by Miss Daniel as a consultant nurse in the Division of County Health Work. Miss Fisher had been supervising nurse in the Durham Health Department. Gates County joined the district to be composed of Hertford and Gates, the work to become effective July 1, 1940.

In the Division of Industrial Hygiene, there was issued a profusely illustrated one hundred page printed report presenting the results of a study of effects of exposure to dust in the mining and milling of pyrophyllite, the field work for which was done during the previous biennium. One of the outstanding achievements of this division was the design of seven industrial exhaust ventilation systems for the control of dust. Three of these had already been completed by June 30 and the installation of the others was already underway.

With the closure of the public schools for the summer holidays, preparations were made for health courses to be given thirty white and thirty colored teachers at the University of North Carolina and the North Carolina College for Negroes at Chapel Hill and Durham, respectively. These courses covered a six weeks period ending approximately July 20, 1940, and were made possible by a grant of \$4,700 by the General Education Board. While it would be premature to attempt an appraisal of what was accomplished by this organization during its first year of existence, it may be stated that educational and health personnel alike cooperated generously, that certain procedures were found to be satisfactory while practical considerations necessitated the modification of others, and that progress was made toward the maturation of a generally accepted school health program.

On January 1, 1940, Dr. Ralph J. Sykes assumed the duties of venereal disease consultant in the Department of Epidemiology. Dr. Sykes had previously served for several years as county health officer first in Surry and later in Halifax. Dr. Frank S. Fellows, Surgeon with the United States Public Health Service who has been assigned to North Carolina for several years, continued to render valuable service in the capacity of venereal disease consultant.

The main accomplishment in the Division of Epidemiology was the great expansion of venereal disease control program. This was largely as a result of financial aid from the Zachary Smith Reynolds Foundation and the United States Public Health Service. In June, 1936, there were 120 clinics in operation. They treated 13,304 patients. In June, 1940, as a result of the aforementioned financial aid, the number of clinics have been increased to 255 in which 27,814 patients received treatment in a single month. The system of mechanical tabulation set up in a central tabulating

unit under the direction of this division reached its full stride in the early months of 1940. A complete progress record is kept on every patient receiving treatment. The central tabulating unit renders valuable assistance to other divisions of the State Board of Health.

The Manual of Minimum Standards for conducting venereal disease clinics prepared by Drs. Fellows and Leiby still continues to be very helpful to physicians and nurses and others concerned with the conduct of venereal disease clinics. Financial aid was given through this department to all organized counties in the State. Fifty-one clinics were supplied with combination darkfield and general purposes microscopes and sixteen of the largest clinics were given fluoroscopes.

On January 1, Dr. Emmett S. Lupton was employed as assistant director in the Division of Preventive Medicine. Dr. Lupton had just completed his internship in pediatrics at the Duke Hospital. In the Division of Preventive Medicine, organized maternal and child health clinics were being operated in 55 counties. An increasing number of infants and expectant mothers among the poor classes were in attendance on these monthly clinics. A total of approximately 250 physicians were cooperating on a part-time basis at the close of the fiscal year, June 30.

The circulation of the *Health Bulletin* increased from about 52,000 to 60,000 monthly copies during the year.

In the Division of Oral Hygiene, there were no material changes except some expansion and expenditures of additional funds in the work of that division, necessitating the employment of an additional number of dentists.

At the beginning of the calendar year 1940, the question of adoption by the State Board of Health of a so-called merit system as required by some sections of the Federal Government at Washington loomed as an important item for consideration during the year. Early in January it was required by the Children's Bureau that standards to form the basis of a merit system should be submitted before the allocation of Children's Bureau funds for the winter quarter would be forthcoming. By the middle of January, therefore, Doctors G. M. Cooper and Emmett S. Lupton, working in consultation with Dr. Carl V. Reynolds, State Health Officer, worked out and submitted a seventeen-page typewritten document setting up standards acceptable to the State Board of Health. These standards with a few minor modifications were immediately accepted by the Children's Bureau. Later in the winter the Regional Medical Consultant of the United States Children's Bureau spent several days in Raleigh discussing with Dr. Reynolds and the representatives of the Children's Bureau in the State Board of Health plans for further development of the merit system, the next requirement being the setting up of a merit system council with a supervisor and submission of classification plans for all State Board of Health workers. At this time the State Health Officer appointed the Director of the Division of

County Health Work to be the responsible official to work out further plans. At a meeting of the State Board of Health on November 29, 1940, that body considered a new draft of what it termed "A Rule for a Merit System of Personnel Administration in North Carolina." Much discussion on the subject was indulged in by various members of the Board at this meeting. A suggestion of Dr. H. G. Baity, a member of the Board, at this time deserves particular emphasis. Dr. Baity made the suggestion that a general statement be placed somewhere in the compensation plan to the effect that the "duties outlined for each position classified were not to be considered as comprising all the duties that might be required of the position and that such other duties as might be required by the State Health Officer or the Division Director would be included."

Later in the year 1940, the war clouds over the world were gathering with such an ominous outlook that the United States Army, Navy, and Public Health authorities were busy laying the groundwork for a mighty army and navy to defend the country. One of the first considerations by the United States Public Health Service and the North Carolina State Board of Health in the fall of this year was an effort to detect the presence of syphilis in as large a section of the population as possible, especially those liable for military service. On October 16, 1940, which was registration day under the Selective Service Draft, the North Carolina State Board of Health utilizing the services available in its 265 venereal disease clinics then established in the State offered to take blood samples from all registrants on a voluntary basis. Consequently, 132,671 blood specimens were taken and examined. This accomplishment was one of the most widespread efforts ever made in the State up to that time to locate by serological examination the presence and distribution of syphilis in North Carolina.

The Federal Government proposed to set up what they call a "Firing Area" in Pender and Onslow counties. It became necessary for the State Board of Health to insist on the organization first of a whole time health department in each of these two counties, neither one having ever had such department before. This was arranged on a joint financial basis between the counties and the State and Federal Government, and a district health department was set up.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1940, were \$1,380,174.90. Of this amount \$370,057.67 was appropriated by the Legislature, \$162,813.81 by the Zachary Smith Reynolds Foundation for syphilis control work, \$229,872.28 by the United States Children's Bureau, \$318,148.38 general and \$175,557.72 venereal disease by the United States Public Health Service, and \$123,465.04 from fees received by the Laboratory in water taxes, etc., and other miscellaneous items.

1941. The imminence of war all through the early part of that year overshadowed all other questions. The establishment of Camp

Davis in Pender and Onslow counties, the Marine Base there and later in Craven County and the expansion of the facilities of Fort Bragg in Cumberland County, together with the enormous ship-building activities underway at Wilmington gave a wartime color to most all health work in the State during 1941.

The Legislature reduced somewhat its appropriation to the State Board of Health for public health work but this was offset by increased appropriation by the United States Public Health Service and the Children's Bureau at Washington. The Legislature also near the close of the session enacted a State Merit System Law to apply conjointly with the Federal requirements to those departments participating in the Federal organization.

At the several meetings of the Board this year the question of better and more widespread utilization of the Laboratory facilities were discussed and provision was authorized for further distribution of various biologicals. The Legislature had been asked for the sum of \$7,000 to provide for free diphtheria toxoid to be dispensed through the Laboratory for the use of all the physicians in the State just as typhoid vaccine and smallpox vaccine have been distributed for many years. The Legislature refused the appropriation and therefore, the only free toxoid that has been provided has been from the Maternal and Child Health Service of the Division of Preventive Medicine from funds allocated by the U. S. Children's Bureau. Five thousand dollars was spent for this purpose.

At practically every meeting of the Board this year there was much discussion on the question of the Merit System. In October of this year the first Merit System examinations were held for certain types of classified service. This included stenographic and clerical positions. Some confusion prevailed throughout the year as to how far the requirements should be extended to include local employees of the various county and city boards participating in State and Federal funds.

Some changes were made in milk distribution regulations and the regulations governing the control of venereal diseases.

The following motion was adopted by the State Board of Health at a meeting in Raleigh on September 12, 1941: That the Board endorse the policy of its Secretary, Dr. Carl V. Reynolds, in his efforts to suppress venereal diseases and prostitution not only around the military areas in North Carolina but also among its civilian population. V. D. Control in North Carolina is a public health problem and it is a fixed policy of the Board to give all of its efforts to the improvement of this situation. We feel that progress is being made and we assure Dr. Reynolds of our full cooperation in the continuance of this program."

On July 1, 1941, Mr. D. S. Abell who had been an assistant engineer in the Sanitary Engineering Department, resigned to become chief sanitary engineer of the Alabama State Board of Health. There were few other changes in personnel during the year except the resignation of Dr. Emmett S. Lupton as Assistant

Director of the Division of Preventive Medicine. Dr. Lupton resigned after twenty-one months' faithful service to the Board for the purpose of engaging in private practice at Graham, North Carolina. Dr. Lupton was a valuable worker and contributed very much toward the success of the work in his division during his short term of office.

The Legislature also adopted during the year two laws regarding the registration of delayed birth certificates and a third law legitimatizing births to illegitimate babies born out of wedlock, provided the parents were subsequently married. The Vital Statistics Department all through this year was overwhelmed with requests for birth certificates on account of the widespread employment demands and military service, all of which require birth certification in order to establish citizenship.

An important expansion in the work of the State Board of Health was the erection of an Oral Hygiene Building on Caswell Square, adjacent to the administration building of the State Board of Health. The new building was designated as the Oral Hygiene Building and is entirely devoted to the work of that division. Ground was broken for this building on January 1, 1941, and on the last Thursday in November the division moved into its new home. WPA assisted in the erection of this building.

Miss Carolyn Mercer, educational consultant on the staff of the Oral Hygiene Division prepared for distribution in the schools a handbook for the use of elementary teachers of our State. This handbook is entitled "Teaching Mouth Health in North Carolina." It has been well received, and as a recognition of this contribution, the North Carolina Dental Society at its meeting this year conferred the honor of making her an honorary member of the North Carolina Dental Society, the first woman layman to receive such an honor in the State Society.

In the Division of Industrial Hygiene, the year 1941 witnessed the completion of an examination of some two thousand men employed to drive nine miles of tunnel in connection with the construction of two hydro-electric power plants in Western North Carolina.

A profound influence on all public health activity in North Carolina at the close of 1941 was the treacherous attack by Japan on the United States by a stab in the back without declaration of war at Pearl Harbor on December 7. This yellow act of treachery naturally has had a profound influence on all public health activities in the State from the first moment that the people received information of this treachery.

At the annual conjoint session of the State Board of Health and the North Carolina Medical Society held in Pinehurst, the terms of office of Doctors S. D. Craig and W. T. Rainey having expired, both were unanimously reelected for an additional term of four years.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1941, were \$1,596,038.31. Of this

amount \$390,916.50 was appropriated by the Legislature, \$19,000 of which was a special appropriation to the Laboratory, \$173,-398.34 by the Zachary Smith Reynolds Foundation for syphilis control work, \$387,912.36 general and \$200,749.20 V. D. by the United States Public Health Service, \$185,356.56 Maternal and Child Health and \$111,509.78 Crippled Children by the United States Children's Bureau, and \$146,195.27 miscellaneous items for Laboratory fees, etc.

1942. Early this year arrangements were made through a meeting called by the Governor, of the county school superintendents and other interested persons to have a physical examination made of all the high school students particularly in the last two grades of the high schools. After several committee meetings the officials of the State Medical Society, the State Dental Society, the State Department of Public Instruction, the school and health officials of the county and with the representatives of the State Board of Health, this plan was carried out.

Dr. D. F. Milam, who had been carrying on with his assistants some interesting surveys in the community around Bynum in Chatham County, completed that service and early this year moved on to Wayne County for more intensive activities in the field of nutrition there. Dr. Milam, who is a loan to the State Board of Health by the Rockefeller Foundation, has a personnel of about five people and is conducting a splendid program in nutrition. His office is located at Duke University, his home is in Chapel Hill, and he is therefore in close contact with both institutions.

In this connection, one of the most significant moves made in the State Laboratory of Hygiene has been the setting up of a nutrition department under the direction of Dr. Bailey Webb. The work in nutrition has received tremendous impetus on account of the food situation throughout the world as a result of the global war now enveloping the earth.

Early in January this year, Dr. John F. Kendrick who was a loan to the State Board of Health also from the Rockefeller Foundation, retired from his connection heretofore with the School Health Coordinating Unit and Dr. Walter Wilkins, the Coordinator, assumed entire responsibility for the School Health Coordinating program. This was consummated at a meeting of the Advisory Committee of that service held in the office of the State Superintendent of Public Instruction on January 21, 1942. Dr. Kendrick was allowed to continue his service in North Carolina as a consultant in the State Board of Health in order to complete the nutritional organization throughout the State. Dr. Reynolds was appointed Chairman of the State Nutrition Council and Dr. Kendrick is his official assistant. Dr. Kendrick's work is largely in the promotion of organization of this work throughout the State on a county basis.

On January 1, 1942, Dr. G. M. Cooper was retired from the editorship of the *State Health Bulletin* and Dr. John H. Hamilton

assumed the duties of acting editor. Dr. Cooper completed his service of 19 years' editorship of this publication and at his insistent request his resignation for this service was accepted. Very complimentary editorials appeared in the *Southern Medicine and Surgery* and in the *North Carolina Medical Journal* concerning his work over the years as director of health education for the State Board of Health and his work as editor of the *Health Bulletin*.

At a meeting of the State Health Coordinating Service in Superintendent Erwin's office on May 8 of this year, the resignation of Dr. Walter Wilkins as Coordinator in the service was accepted to become effective June 1. A committee composed of Dr. G. M. Cooper, Chairman, Mr. Charles E. Spencer, and Dr. Oliver K. Cornwell were appointed to take temporary charge of the work of the division and to have authority for the conduct of the summer health conferences to be held in four of the State's institutions. This committee was able to set up all the machinery for each one of the conferences and to conclude a most satisfactory summer's health course in the Woman's College of the University of North Carolina at Greensboro, Bennett College, a Negro institution at the same place, North Carolina College for Negroes at Durham, and the University of North Carolina at Chapel Hill. All of these conferences comprising a six weeks' course in each place were concluded with highly satisfactory results under the direction of the committee and with Mr. Spencer being in charge of the detailed execution of the plans, assisted in the Negro institutions by Dr. Walter J. Hughes, a colored physician on the staff of the State Board of Health.

In May of this year, the maternity and infancy clinics set up under the Division of Preventive Medicine reached a total of 308 established in 74 counties of the State. Some two hundred private physicians were participating at intervals in the program of examination for indigent women and well babies received in these clinics. Before July 1, however, the department was feeling seriously the inroads made by so many cooperating physicians both in the division of Preventive Medicine and in that of Epidemiology, who were assuming duties in the military forces of the country. The postgraduate course in Duke Medical School conducted by the Division of Preventive Medicine had to be discontinued by mid-summer on account of the shortage of physicians in private practice due to such depletion of the service, as mentioned before.

In the Division of Industrial Hygiene, the year 1942 was marked by the receipt of a substantial amount of lend lease equipment from the U. S. Public Health Service. A full-time well qualified chemist was also provided on the same basis, and from the same source.

Up to July 1 at the close of the period covered by this chronology, county health work had been extended to include 84

counties, Pasquotank County being the last to come into the service.

On May 31, Dr. Ralph J. Sykes who had been an assistant in the department of Epidemiology was commissioned a reserve officer in the Army with the rank of Captain, and resigned from the State Board of Health. His place had not been filled up to July 1.

On May 1, Dr. Merl J. Carson of Wilmington, a qualified pediatrician joined the service of the Division of Preventive Medicine as a consultant pediatrician. On June 1, Robert B. Lawson completed his assignment of two years with the State Board of Health in the conduct of the postgraduate courses at Duke and as consultant in pediatrics to assume his duties by prearrangement as associate professor of pediatrics in the Bowman Gray Medical School of Wake Forest College at Winston-Salem. Dr. George K. Anderson of Rochester, New York, a qualified pediatrician, was secured to take the place of Dr. Lawson.

On June 9, at the annual commencement of the University of North Carolina, the honorary degree of Doctor of Laws was conferred upon Dr. George M. Cooper, Director of the Division of Preventive Medicine, who had completed at that time twenty-seven years' consecutive service as a member of the executive staff of the State Board of Health. The first such honor conferred upon a State health official was a similar degree conferred by the University upon Dr. Thomas F. Wood in 1888, four years before Dr. Wood's death and after he had served for several years as the first State Health Officer. The second was a similar degree conferred upon Dr. Richard H. Lewis by the University in 1912, three years after he had terminated his seventeen years' service as State Health Officer. A third degree of Doctor of Science was conferred by the University upon Dr. Clarence A. Shore in 1929 after he had concluded twenty-one years' service as Director of the State Laboratory of Hygiene. By the time of his retirement, or soon after, as State Health Officer in 1925, Wake Forest College and Duke University each conferred an honorary degree upon Dr. W. S. Rankin. About a year later, Davidson College conferred a similar degree.

The total expenditures for the State Board of Health for the year ending June 30, 1942, were \$1,791,878.11. Of this amount \$370,150.59 was appropriated by the Legislature, \$65,403.89 of which was for the State Laboratory, \$178,405.32 by the Zachary Smith Reynolds Fund for syphilis control work, \$418,515.61 general and \$317,280.68 venereal disease fund by the U. S. Public Health Service, \$227,703.77 maternal and child health and \$120,-121.24 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and Laboratory fees totaling \$159,700.90.

There were some staff changes during the latter part of the year 1942. Following the resignation of Dr. Walter Wilkins, who resigned from his position as head of the School Health Coordi-

nating Service, Dr. W. P. Jacocks, a native of North Carolina who had served as a staff officer of the International Health Board mostly in foreign service for the past thirty years, and who was retired from that service, was induced to accept the place vacated by Dr. Wilkins. Dr. Jacocks assumed direction of the department on October 5 of this year. He immediately proceeded to reorganize the School Health Coordinating Service and later on in the year a complete staff was secured. By the late Autumn work was fully under way in that department in a number of counties.

In July of this year a joint State-Federal project for the production and evaluation of venereal disease educational materials was sponsored by the U. S. Public Health Service and the Zachary Smith Reynolds Foundation as an adventure in this specialized field of venereal disease education. The institute was set up to originate educational materials, to demonstrate them and to evaluate their impact under the direction of Mr. Capus M. Waynick. Mr. Waynick is an experienced newspaper editor and a former high official of the State Highway Commission.

During this year the Division of Public Health Nursing in the School of Public Health at the University of North Carolina got underway with a full class who received degrees at the June commencement. The Public Health Nursing Division under the direction of Miss Ruth W. Hay as Professor of Public Health Nursing and with the assistance of Miss Margaret Blee as Assistant Professor and Assistant Director completed a most successful scholastic year. Thirty-eight nurses were enrolled in the year's course.

In the Autumn of this year the employees of the State Board of Health organized and established what is officially known as the North Carolina Academy of Public Health at the State Board of Health. All employees of the State Board of Health are members of this Academy and are required to attend monthly meetings. The objective is to review the entire program of the various divisions in order that each employee may have a general knowledge of the coordinated whole. This organization endeavors to act as a continuous refresher course and is designed to promote closer cooperation and social interest through the occasional gatherings for that purpose. The usual attendance is about 125. The officials of this organization elected at its organizational meeting were Dr. George M. Cooper, President, Dr. E. A. Branch, Vice President, and Mrs. Anne B. Edwards, Secretary and Treasurer.

The total expenditures for the State Board of Health for the year ending June 30, 1942, were \$1,791,878.11. Of this amount \$370,150.59 was appropriated by the Legislature, \$65,403.89 of which was for the State Laboratory, \$178,405.32 by the Zachary Smith Reynolds Fund for syphilis control work, \$418,515.61 general and \$317,280.68 venereal disease fund by the U. S. Public Health Service, \$227,703.77 maternal and child health and \$120,-

121.24 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$159,700.90.

1943. The chronology for this year and the year following will be greatly condensed. The reason for this is lack of time for proper preparation on the part of the editors of the chronology who at the time of the preparation of this manuscript are overwhelmed in duties involved in the administration of the increased work necessitated by war demands. Another reason is the scarcity of print paper requiring brevity. It is understood that when peace is restored for the world and the department is able to resume its normal functions that the very unusual amount of activity carried on by a large number of persons in this period will be carefully and accurately set forth in the next volume of these reports which should be issued two years from now.

During this year, the work of the Board of Health was expanded in every direction. During 1943, the terms of Drs. G. G. Dixon and John LaBruce Ward as members of the State Board of Health expired. They were reelected by the State Medical Society to succeed themselves, each to serve an additional four-year term which will expire in 1947. Dr. H. Lee Large, whose term expired in 1943, was reappointed by the Governor for a term of four years to expire in 1947. Dr. H. G. Baity, whose term as a member of the Board expired in 1943, was not reappointed by the Governor because of the fact that he had been given a leave of absence for a period of three years from his duties as Professor of Sanitary Engineering at the University of North Carolina for some important work with the U. S. Government to be done in South America. Dr. Baity's absence was expected to cover at least three years. The Governor appointed to serve in his place Dr. J. O. Nolan, a practicing physician of Kannapolis, his term to expire in 1947. In 1943, Mr. C. C. Fordham, Jr., of Greensboro, whose term was to expire in 1943, resigned to accept a commission in the armed service. The Governor appointed Mr. Larry I. Moore, Jr., a member of the Legislature from Wilson, North Carolina, to succeed Mr. Fordham, his term to expire in 1945.

During this year, arrangements were made for the establishment of a chair in the School of Public Health at the State University to teach a health education training course. Dr. Lucy S. Morgan was engaged as instructor in this field. Dr. Morgan was assigned to the State of North Carolina by the U. S. Public Health Service to inaugurate this work. Through the office of Dr. Mayhew Derryberry, Chief of Field Activities in Health Education of the U. S. Public Health Service, twenty fellowships were secured to provide for courses in this field of health education from the W. K. Kellogg Foundation of Michigan. Students entering on these fellowships come from all parts of the United States. These fellowships pay the recipients tuition and allow them a stipend for living expenses.

During this year, Mr. Warren H. Booker, who had been director of the Division of Sanitary Engineering since 1931, was placed on the retired list and Mr. J. M. Jarrett was appointed as his successor.

In the department of Central Administration, Miss Sara Wilkerson was employed as Personnel Officer and in charge of the enforcement of the Merit System regulations in so far as employment of workers in the State Board of Health is concerned. After several years' efforts and pressure from the Federal Government, a system of merit examinations was set up. All employees of the State Board of Health beginning with this year, except strictly professional service which has had to be deferred until the end of the present war, are selected. Any new places or any replacements must be filled from the list provided by the Merit System Supervisor. This covers all of the department personnel except, as just stated, the professional personnel.

In November of this year, the administrative supervisor of the crippled children's department in the Division of Preventive Medicine resigned after a little more than seven years' service. Following his resignation, there were some personnel changes in that department resulting from resignations. The department was practically reorganized but the work is conducted under the medical direction of the Division of Preventive Medicine.

Following some experimental work, which began in September, 1942, with funds allotted by the U. S. Children's Bureau, one of the largest and most difficult programs ever undertaken by the State Board of Health was expanded early in this year. Reference is made to what is termed the EMIC program, the Emergency Maternity and Infant Care program, launched by the Federal Government for the purpose of providing free medical, nursing and hospital care in maternity cases for the wives of the men in the four lower pay grades of all the armed services and to provide for such care for the infants under one year of age of the same pay grades of the same classes of service men. This work has been a responsibility of the Division of Preventive Medicine in the department of maternal and child health services. It has necessitated meticulous contracts between the Board of Health, the cooperating hospitals who accept these patients, the physicians who attend them and any special nurses whose services are needed. Aid has been provided for women in every county of North Carolina. The work has been particularly heavy in this State because of the fact that a number of camps training soldiers for overseas duty were located here. Many of these young wives came to the vicinity of the camps to be near their husbands. Some of these lived in trailers, in crowded boarding houses and other undesirable places. It has been the duty of this department to secure the services of a physician who will accept the fees allowed by the government for complete maternity service, then to secure the contracts from hospitals who would accept these patients on the government terms which provide first class ward care. It has involved cor-

respondence entailing thousands upon thousands of individual letters and much complicated financial and clerical work. As the year closed, this problem was growing bigger and bigger. More will be said about it and some of the results which have been accomplished will be mentioned in the chronology for 1944.

A division of consultant nurses was enlarged and expanded by which the State was divided into districts and the administration of public health nursing from the State level was carried on by these consultant nurses under the general supervision of the local health administration. This service does not include the highly specialized service necessary in the department of crippled children. The nurses in that department, two at present, carry on the highly specialized nursing required in the conduct of the clinics for the examination and later treatment of crippled children.

One of the new installations in this year was the establishment of a multilith department under a competent operator. This has relieved to some extent the demands on our printing as well as mimeographing.

The total expenditures for the State Board of Health for the fiscal year ending June 30, 1943, were \$1,880,230.62. Of this amount \$406,993.29 was appropriated by the Legislature, \$67,432.62 of which was for the State Laboratory, \$179,883.10 by the Zachary Smith Reynolds Fund for syphilis control work, \$289,981.30 general and \$463,125.09 general disease fund by the U. S. Public Health Service, \$184,807.17 maternal and child health and \$123,538.79 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and Laboratory fees totaling \$132,901.88.

Two Rapid Treatment Centers for the cure of venereal diseases were opened in North Carolina during the year. One is located in Charlotte, the other in Durham. The Charlotte Center, opened August 13, is financed out of Lanham Act funds, provided by Congress, and certain funds at the disposal of the State Board of Health, and is operated as a State enterprise, though staffed largely by United States Public Health Service officers. The Durham Center, also supported by Lanham Act funds, is operated by the United States Public Health Service, in cooperation with the State Board of Health. It was opened November 16.

1944. The summary of activities which may be recorded this year is simply a statement of the continuation of activities in every department of the State Board of Health which was underway in 1943. No new work has been established during the first six months period of 1944 covered by this report, except the enlargement and continuation of work heretofore carried on. It should be noted here that one of the employees, Mr. James Cooper of the Laboratory of Hygiene, who was on leave of absence to serve in the U. S. Air Corps, was killed over Rumania while performing his duties as a member of the crew of one of the big bombers attacking the Ploesti oil field. Another young engineer, Mr. Charles H.

King, who was for several years employed in the Industrial Hygiene Division, died of meningitis while serving in the Army in Italy. Mr. King had left the service of the Board a few months before going into the armed services. He left the Board to accept service as an engineer in another State Health Department. These young men were valued employees of the State Board of Health and so far as is known were the only employees so far killed in the armed service.

Early this year, the State Board of Health inaugurated a rather drastic change in the local administration of health work. Heretofore this work was grouped under the Division of County Health Work with a single director in charge. The department was reorganized on a basis of divisional representation. Three districts were set up, the eastern district in charge of Dr. Joseph C. Knox, the middle district in charge of Dr. R. E. Fox, and the western district in charge of Dr. J. Roy Hege. The purpose is to have more direct representation between the representatives of the State Board of Health and the local health authorities and to expedite the solution of the problems arising on the basis of administration. This arrangement was particularly deemed necessary on account of the problems related to the enforcement of venereal disease control throughout the entire State, as well as the many financial problems arising continually.

Dr. J. C. Knox resigned and left the service of the State Board of Health on June 30 for the purpose of entering private practice as a pediatrician in the City of Wilmington. Dr. Knox had been with the Board since he completed his postgraduate work in public health at Harvard University in 1931 and 1932. He was one of the most popular officials of the State Board of Health organization, and his departure was greatly regretted by everybody connected with the organization.

During this biennium, Dr. Carl V. Reynolds, State Health Officer, completed his term of office as President of the State and Territorial Health Authorities of North America. Dr. Reynolds served this term during the most hectic period of the preparation for war work when a great many public health measures were adopted and put into effect.

In the Division of Preventive Medicine, the administration of the Emergency Maternity and Infant Care Program continued to absorb most of the energies and resources of that department. Authorizations for medical care and hospitalization of maternity cases continued at between thirteen and fourteen hundred women a month as the biennium closed. Up to the end of the year, nearly one-half million dollars have been paid out for the completion of the care for more than five thousand women and several hundred infants of eligible service men. It is now clear that had Congress not made provision for this program and if the different States had not arranged for its prompt administration, literally thousands of women throughout the country would not have been able to procure medical or hospital care during confinement. The

law has been impartially administered in this State. The wives and babies of service men of the four lower pay grades of any of the armed services who wanted to avail themselves of this aid have had it provided, regardless of social or financial standing. Funds to carry on this work, as above stated, were appropriated by Congress, at the beginning of the fiscal year, and the money is allotted to individual states by the U. S. Children's Bureau of Washington. Naturally, in any program involving the expenditure of as much money and requiring the cooperation of practically all the practicing physicians in the country who do general practice, including obstetrics, and with the pediatricians, as well as the hospitals and nursing profession, has resulted in the establishment of a great many rules and regulations by the Washington bureau, some of which have been inflexible and which caused some friction in the administration. However, for the most part practically all the hospitals in North Carolina with two or three notable exceptions have cooperated wholeheartedly and several hundred practicing physicians have also participated in the service.

On September 1, 1944, Dr. William P. Richardson, District Health Officer of the Chapel Hill District, succeeded Dr. J. C. Knox, resigned, as Director of the Eastern District of the Local Health Administration Division. On September 1, Dr. William D. Hazelhurst of the U. S. Public Health Service joined the staff of the Division of Local Health work as a consultant in the V. D. program. Miss Mary Batchelor, field representative with the Division of Local Health Administration, which position she had most acceptably filled for many years, resigned her position effective September 30 of this year. Miss Batchelor was a very popular representative of the Board and resigned to marry a member of an old Kentucky family. Miss Batchelor was succeeded by Miss Sarah Goggans as field representative, Miss Goggans being transferred from the position as head of the Central Filing System, and assumed her new duties on January 1, 1945.

Early this year Governor Broughton appointed a Commission of State-wide significance, known as the "Hospital and Medical Care Commission," composed of fifty citizens of the State. Dr. Clarence Poe of Raleigh was made Chairman. Doctors Carl V. Reynolds and George M. Cooper were appointed to serve on this Commission along with several physicians including Dr. Hubert B. Haywood, a member of the State Board of Health. The purpose of this Commission was to make a careful study of the existing medical and hospital facilities and the lack of such facilities in all parts of the State, and to make recommendations to be presented to the incoming Legislature of 1945. The Commission did a thorough job and recommended that the two-year medical school of the University of North Carolina at Chapel Hill be expanded into a four-year school, and that the school be provided with a large central teaching hospital, and that several hospitals be built in areas of the State now without any facilities at all.

The total expenditures for the State Board of Health for the year ending June 30, 1944, were \$2,203,805.31. Of this amount \$439,213.47 was appropriated by the Legislature, \$65,240.38 of which was for the State Laboratory, \$178,188.05 by the Zachary Smith Reynolds Fund for syphilis control work, \$391,043.73 general and \$424,064.75 venereal disease fund by the U. S. Public Health Service, \$524,228.04 maternal and child health and \$124,035.65 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and Laboratory fees totaling \$123,031.62.

1945. Dr. J. Roy Hege resigned his connection with the Division of Local Health Administration as of June 30, 1944, to return to Winston-Salem as District Health Officer for Forsyth, Stokes, Davie, and Yadkin counties. After serving in this capacity for one year he returned to the State Board of Health July 1, 1945, and resumed his old position as Director of the Central District of the Division of Local Health Administration. Miss Mary Louise Hewitt resigned from the staff as a consultant in public health nursing connected with the Local Health Administration Division effective March 31, 1945. Miss Lila Anderson of the U. S. Public Health Service was assigned to the State Board of Health in the capacity of consultant nurse effective December 15, 1945.

On September 1, 1945, Dr. W. P. Jacocks resigned as Director of the School Health Coordinating Service and was succeeded by Dr. E. H. Ellinwood effective on the same date. Miss Bessie Beale, colored nutritionist, was appointed to the staff of the Coordinating Health Service effective June 1, 1945. On May 15, 1945, Mrs. Anne Cain became a member of the nursing staff of the Coordinating Health Service. Miss Jennie L. Douglass, colored health educator, resigned her position with the Coordinating Health Service July 1, 1945.

In 1945 Dr. John F. Kendrick, who had organized the Nutrition Division as early as 1942, was recalled in August of this year by the Rockefeller Foundation for foreign service. Dr. W. P. Jacocks succeeded him as Director of the Nutrition Division effective September 1, 1945, on the same day he resigned from the Directorship of the School Health Coordinating Unit. During this year Miss Mary Parks Bell was appointed to one of the positions of nutritionist and assumed her duties in August. Mrs. Mary W. Thrasher resigned her position as nutritionist in the department in July. The principal development in the year in the Nutrition Division was the organization of nutrition consultant service to health and school administrations and community organizations.

At a meeting in Pinehurst on May 2, 1944, the State Board of Health authorized the creation of a Bureau of Tuberculosis Control to be set up as a part of the State Board of Health. At this time no funds had become available for the administration of such new activities. However, the Division of Industrial Hygiene had been operating in this capacity on a part-time basis as a pilot plant. This experiment had been carried on with aid and assist-

ance from the U. S. Public Health Service, and as early as January, 1944, some forty-two thousand industrial employees had been examined. The findings had been such that the need for this new work was unquestionably great. The Bulwinkle Bill proposing Federal grant-in-aid funds for the control of tuberculosis had already been introduced. The State Health Officer requested the 1945 General Assembly to make an appropriation with which to administer such grant-in-aid funds as might be forthcoming. House Bill No. 11, Chapter 279, Section 18—1945 Session Laws of North Carolina authorized the appropriation . . . "to supervise the Federal tuberculosis program in this State. . . ." The first monies actually became available for this purpose late in the spring of 1945. Dr. T. F. Vestal, Director of Industrial Hygiene since 1939, was made director of the new Bureau of Tuberculosis Control, and has since been diligently engaged in securing the necessary equipment and personnel, and in getting the program under way. The Bureau is operating this year with a budget of two hundred seventy-one thousand dollars and to date has made chest X-ray examinations on approximately one hundred and fifty thousand citizens of the State.

On January 1, 1945, Dr. T. F. Vestal, who was transferred to head a new Bureau of Tuberculosis Control, was succeeded as Director of the Division of Industrial Hygiene by Dr. C. B. Davis of Wilmington.

On October 1, 1945, Dr. R. T. Stimpson, Director of the Division of Vital Statistics, resigned to enter private practice. The Division of Vital Statistics was on that date combined with the Division of Epidemiology with Dr. C. P. Stevick as Director. Dr. Stevick has been Director of the Division of Epidemiology since December 15, 1943, at which time Dr. J. C. Knox, former Director of that Division, had been made a District Director of the Division of Local Health Administration. The newly organized Division of Vital Statistics and Epidemiology offers an opportunity for the development of graphic statistical data regarding morbidity and mortality with which to educate the public regarding the needs of approach to the public health problems of the State.

The 1945 Legislature established a State Stream Sanitation and Conservation Study Committee. The Chairman of that Committee was Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering of the State Board of Health. It is hoped that this action of the Legislature will eventually result in abatement of stream pollution in North Carolina which has been for some years a serious problem. A survey of the waste problem is also under way by this Committee. During this year, the Public Health Service expanded its endemic typhus fever control program and considerable work has been done in the ratproofing of buildings and dusting with DDT. Typhus morbidity has shown a great decrease, which is attributed to the DDT dusting program, as well as other measures of control. A milk laboratory was established at Lexington for control purposes in that area of the State. This labora-

tory has been placed under the supervision of the Division of Sanitary Engineering. Complete bacteriological and sanitary surveys were made of all shellfish growing areas in the State, in cooperation with the Public Health Service, over 5,000 water samples being examined. Through cooperation with the State Department of Conservation and Development and the U. S. Geological Survey, the Laboratory of the U. S. Geological Survey was moved from State College to the Laboratory of Hygiene Building and complete chemical and mineral analyses are being made of all public water supplies in the State.

In this year, the Division of Preventive Medicine was overwhelmed with work in connection with the administration of the Emergency Maternity and Infancy Care Program. About one million dollars was expended during the year in payment for hospitalization and medical service for maternity care of wives of servicemen in the lower four pay grades of the armed service. This work continued to require an immense amount of personal correspondence and attention to thousands of administrative details. The accounting department was perfected early in the year under the direction of Mr. B. P. Pearson, aided by the stenographic and other personnel of the office. By the end of the year this department was functioning smoothly, bills were being paid both to hospitals and physicians as rapidly as possible. In June of this year, Dr. Merl J. Carson who was for more than three years a consultant in pediatrics attached to the Division resigned to become associated with the faculty of Washington University Medical School in St. Louis. Dr. Carson's leaving left the Director of the service as the only physician connected with the entire program including that of crippled children's work. This placed a heavy burden upon the shoulders of the lone Director, but owing to scarcity of physicians and war service and otherwise, it was not possible to secure a successor for Dr. Carson or a senior physician in the Crippled Children's Department so badly needed.

For the first year since the State Board of Health was organized in 1877 there was no annual meeting of the North Carolina State Medical Society, and hence no report of the Board to a Conjoint Session. This was because of war emergency and restrictions on conventions and travel.

The Legislature enacted some laws toward the close of the session "accepting in principle" the report of the Broughton Medical Care Commission. Governor Cherry, upon whose recommendation the Legislature acted, appointed a new and smaller Commission endowed with extensive powers to make new studies of the needs for medical care, etc. Among other powers given to this Commission, whose Chairman is James H. Clark of Bladen County, is the sole power to administer the funds appropriated by the Legislature for aid in hospital care for those who need and claim it. They also have the sole responsibility for deciding what areas of the State may have aid from Federal funds as well as State, in building new hospitals and expanding present facilities.

The total expenditures for the State Board of Health for the year ending June 30, 1945, were \$2,807,963.50. Of this amount \$430,827.80 was appropriated by the Legislature, \$66,545.75 of which was for the State Laboratory, \$171,948.80 by the Zachary Smith Reynolds Foundation for syphilis control work, \$384,220.61 general, \$377,570.23 venereal disease and \$1,937.56 for tuberculosis by the U. S. Public Health Service, \$153,722.78 maternal and child health, \$990,129.61 emergency maternity and infant care, and \$119,144.95 crippled children's service by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental, V. D., printing, and Laboratory fees, totaling \$178,461.16.

1946. Dr. E. H. Ellinwood resigned his position as Coordinator of the School Health Coordinating Service effective June 30, 1946.

On January 30, 1946, Dr. C. B. Davis resigned his position as Director of the Division of Industrial Hygiene. He was succeeded by Dr. Otto J. Swisher, who assumed his duties February 1, 1946. Early in this year, Mr. W. E. McCormick, who was with this Division on a lend-lease basis from the U. S. Public Health Service, resigned and left the Division to join the Georgia State Department of Health. The activities of this Division despite the numerous personnel changes have gone along in about the usual manner. The major portion of the time and effort is necessarily spent in dusty trade activities. However, the entire time of the mobile X-ray unit is not taken up with this type of work and has assisted on numerous occasions with tuberculosis surveys in various industries throughout the State. During the early months of this year, efforts have been exerted to bring up-to-date the work in the foundries throughout the State. This particular phase of the work, during the war years, had been allowed to assume a minor role due to the stress placed upon the various mining industries, chief among which was the mica mining which was such an important war material.

Miss A. Helen Martikainen of the U. S. Public Health Service, who joined the staff of the Division of Local Health Administration as assistant director of health education as of December 1, 1944, was recalled by the Public Health Service effective June 30, 1946. Miss Martikainen's contribution to public health education work in North Carolina was of material value. Mr. Horace Holmes, Jr., of the U. S. Public Health Service, became a member of the staff of the Local Health Administration Division January 1, 1946. Mr. Holmes' work has largely been in dealing with surplus property and studies in connection with V. D. control. In his work dealing with surplus property, Mr. Holmes has assisted Dr. S. D. Craig who for several months of this year had charge of the surplus property disposal work for the State Board of Health. Miss Idell Buchan was transferred from the staff of the Division of Preventive Medicine to the position of consultant public health nurse in the Division of Local Health Administration on January 15 of this year. On June 30, the Local Health Administration Division lost a valuable consultant in pub-

lic health nursing when Miss H. Lillian Bayley resigned her connection with the Division to accept a position as supervising public health nurse in New Hanover County.

A trailer laboratory has been constructed for use in the Division of Sanitary Engineering for work in the milk, municipal, water, shellfish, and sewage disposal problems connected with the Division. The program of abattoir construction has developed satisfactorily during 1945 and the early portion of 1946. There are now, as of June 30, 1946, over one hundred approved abattoirs in the State.

On January 15, Dr. John W. Mahoney, obstetrician connected with the Gallinger Hospital in Washington for several years, joined the staff of the Division of Preventive Medicine as a consultant in obstetrics. Miss Jean Donald was employed as a medical social worker and assumed her duties on May 1 with the Department of Crippled Children.

During this year Mr. Capus M. Waynick resigned as head of the Division of Venereal Disease Education Institute and was succeeded by Mr. T. C. Johnson acting. Miss Maggie Blackburn, a trusted employee of the State Board of Health for more than twenty years, continued ill and a patient in the Wake County Sanatorium. Mrs. Mary Cross, an employee of the Vital Statistics Department for more than twenty years, was retired.

The whole State public health service suffered a serious blow in the death of Dr. Milton J. Rosenau, since 1936 head of the Public Health School of the University of North Carolina, which occurred at his home in Chapel Hill, April 9, 1946.

As of June 30, the members of the State Board of Health in office were: Dr. S. D. Craig, President, Winston-Salem; Dr. J. N. Johnson, Vice-President, Goldsboro; Dr. G. G. Dixon, Ayden; Dr. H. Lee Large, Rocky Mount; Dr. W. T. Rainey, Fayetteville; Dr. Hubert B. Haywood, Raleigh; Dr. John LaBruce Ward, Asheville; Dr. James O. Nolan, Kannapolis, and Mrs. Jasper C. Jackson, Lumberton.

The total expenditures for the State Board of Health for the year ending June 30, 1946, were \$2,901,386.60. Of this amount \$510,504.65 was appropriated by the Legislature, \$75,879.63 of which was for the State Laboratory, \$179,593.90 by the Zachary Smith Reynolds Fund for syphilis control work, \$414,501.42 general, \$384,633.85 venereal disease and \$49,396.23 tuberculosis control fund by the U. S. Public Health Service, \$151,212.21 maternal and child health, \$948,452.47 emergency maternity and infant care, and \$120,445.64 crippled children's funds by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$142,646.23.

1947. The principal item of interest worth recording in this chronology during the year 1947 was the biennial meeting of the State General Assembly. The session lasted for about three months and was marked by about the usual interest in a General Assembly

which meets in the mid-term of a Governor. The appropriation made to the State Board of Health remained about the same as allocated by the previous Legislature. Not many changes were made in the laws concerning State health work. The State Health Officer submitted some legislation for the purpose of conferring authority on the State Board of Health to regulate the milk industry of the State. The Legislature refused to enact the requested legislation made by the State Health Officer.

For at least a quarter of a century, the State Board of Health had repeatedly sought legislation conferring definite authority on the Board for the purpose of assuring a safe milk supply to the people of the State. The sole interest of the Board of Health at all times in this matter was to protect the public from the purchase of unsafe milk. The General Assembly had never conferred the required authority on the State Board of Health in this field and so the General Assembly of 1947 followed the action of most of its predecessors and refused to enact this legislation. As the legislation requested by the Board of Health was turned down by the General Assembly, the State Commissioner of Agriculture set up regulations under the general authority of law possessed by the Department of Agriculture, especially under the authority conferred by the Federal and State Pure Food and Drug Laws which the Department of Agriculture is charged with enforcing. The Governor and Commissioner of Agriculture appointed a commission to make further studies of the milk industry and the marketing of milk from the standpoint of safety. This commission had not made a report prior to June 30, 1948, which is the period covered by this report.

During the fiscal year ending June 30, 1947, very few material changes took place in the administration of the State Health Department. The Legislature of 1947 enacted some other laws which affected certain administrative procedures of the State Board of Health. The most important were the following:

The existing laws permitting the organization of district boards of health were revised to permit the State Health Officer to appoint ex-officio members in cases of vacancies. This further strengthened the district board of health plan so as to permit more satisfactory function of health departments covering two or more counties.

The existing statutes pertaining to the State Stream Sanitation and Conservation Committee were revised so as to permit more effective function in solving the serious problems existing in the State with regard to stream pollution.

The State Board of Health was authorized to issue photostatic copies of birth certificates to have full legal value as certified copies.

The State laws pertaining to examination of school employees was revised so as to require a more complete examination and that the examination be performed annually.

One important arrangement perfected during the year was the provision of photostatic copies of every maternal death certificate coming to the State Board of Health from anywhere in the State promptly on receipt of the monthly reports from the local registrars throughout the State. This provision was made through contribution of funds from the U. S. Children's Bureau sufficient to employ an extra clerical worker in the *Department* of Vital Statistics to go through all of the death certificates each month and to select these items. The photostatic copies are sent monthly to Dr. Frank R. Lock, chairman of the Maternal Welfare Committee of the North Carolina State Medical Society. Dr. G. M. Cooper, Director of the Maternal and Child Health Service of the State Board of Health, is a member of that committee and through his office and the Department of Vital Statistics this arrangement was perfected. The work of the Maternal Welfare Committee under the very able chairmanship of Dr. Lock has already demonstrated what can be done toward a further lowering of the maternal death rate in the State. This was one of the most important features of the Maternal and Child Health Service carried out during this year.

Dr. Paul E. Jones, a dentist of Farmville, Pitt County, North Carolina, was appointed to membership on the State Board of Health following the recommendation of the North Carolina Dental Society. Dr. Jones' appointment was to fill the vacancy left by the death of Dr. J. N. Johnson, long time member of the Board of Health who died at his home in Goldsboro on December 2, 1946.

During this year Mr. M. M. Melvin, an employee of the Department of Sanitary Engineering for twenty-seven years, resigned and left the department for other work in the State.

As of June 30, 1947, the members of the State Board of Health in office were Doctors S. D. Craig, Paul E. Jones, G. G. Dixon, H. Lee Large, Hubert B. Haywood, W. T. Rainey, John LaBruce Ward, James O. Nolan, and Jasper C. Jackson.

The State Board of Health and the N. C. Medical Society met in annual session May 14, 1947, at Virginia Beach, Virginia. At the meeting of the Board of Health at Virginia Beach, Dr. Carl V. Reynolds was re-elected for a term of four years as State Health Officer to begin July 1, 1947. Dr. George M. Cooper was re-elected at the same time as Assistant State Health Officer for the same four year period of service beginning July 1.

Miss A. Helen Martikainen, Health Education Consultant with the U. S. Public Health Service, who was transferred from the North Carolina State Board of Health to District No. 2 Office, Richmond, Virginia, on August 1, 1946, was transferred to North Carolina again on August 1, 1947, assigned to the Division of Local Health Administration to assist with the development of a statewide health education program.

Miss Lila Anderson, Nursing Consultant with the U. S. Public Health Service assigned to North Carolina to assist with nursing aspects of tuberculosis control program, was transferred from North Carolina on September 13, 1948.

Dr. J. Roy Hege, formerly connected with the Department of Local Health Administration, was transferred to the Directorship of the Department of Vital Statistics and Epidemiology. After a few months' service, he resigned to accept the position of County Health Officer for Cabarrus County.

The total expenditures for the State Board of Health for the year ending June 30, 1947, were \$2,814,937.00. Of this amount \$561,996.00 was appropriated by the Legislature; \$117,132.00 by the Zachary Smith Reynolds Foundation for syphilis control work; \$372,511.00 General, \$351,033.00 Venereal Disease, \$233,997.00 Tuberculosis Control, and \$2,220.00 for Cancer Control by the U. S. Public Health Service; \$210,461.00 Maternal and Child Health, \$663,520.00 EMIC, and \$168,350.00 Crippled Children's Service by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$133,717.00.

1948. The principal difficulty encountered by the State Board of Health during this period, namely, the first half of the calendar year ending June 30, 1948, has been the difficulty of obtaining necessary professional help, such as physicians, physiotherapists, engineers, dentists, medical social workers, etc, to carry on the work of the State Board of Health. For the first time in the history of the State, a large number of county health officers today are receiving much larger salaries than the top bracket staff officers of the State Board of Health. This is not a healthy condition for the State Health Department and it is to be hoped that the Legislature of 1949 will make some provisions to remedy this situation. Naturally, with the top bracket help held on a lower salary schedule than similar professional people in other lines of activity, it results in depressing the pay of the rank and file of the employees who are suffering great hardship at this time on account of the inflation and the comparatively low salaries paid. Much hardship is experienced by some of these employees, many of whom have given faithful service for many years.

There have been no changes in the membership of the State Board of Health as recorded last year. The same personnel are in office today that were in office a year ago. The most conspicuous event taking place during this part of the biennium was the resignation of Dr. Carl V. Reynolds as State Health Officer effective June 30. Dr. Reynolds retired after serving a little more than 13½ years. As recognition of the work of Dr. Reynolds, the State Board of Health at its meeting in Pinehurst May 5 voted a bonus of \$2,000.00 in cash to Dr. Reynolds to be paid from the Reynolds Foundation administrative fund, of which Dr. Reynolds had been custodian for some years. In addition to this, the State Board of Health later on provided \$1,000.00 additional

bonus to Dr. Reynolds from the Reynolds Foundation fund for his service as a consultant for a few weeks following the assumption of office of Dr. J. W. R. Norton on July 1.

The following changes in the staff took place during this period:

Dr. T. F. Vestal, Director of the Bureau of Tuberculosis Control, having resigned, Dr. William A. Smith, a retired officer from the U. S. Army Medical Corps, accepted the appointment as Director of that Division.

Dr. Ivan Procter also accepted appointment as Director of the Division of Cancer Control. Doctor Procter's appointment became effective March 1, 1948, at which time the Division began an active plan of statewide cancer control. Assisting Doctor Procter as Director, Mildred Schram, Ph.D., became Field Director.

At the meeting of the State Board of Health in Raleigh on February 24, President Craig read Doctor Reynolds' letter of resignation as Secretary and State Health Officer effective June 30, 1948. The Board accepted Doctor Reynolds' resignation with sincere regrets. Following the acceptance of Doctor Reynolds' resignation, Doctor Nolan of Kannapolis, member of the Board, moved that the President of the North Carolina State Board of Health offer the position of Secretary and State Health Officer to Doctor Thomas Parran, Surgeon-General, U. S. Public Health Service. This was a few days after the appointment of a successor to Doctor Parran by President Truman. On March 31, 1948, having been informed by Doctor Parran that he could not accept the appointment as State Health Officer, there was a special call meeting of the State Board of Health which met in the auditorium of the State Laboratory of Hygiene in Raleigh for the purpose of electing a Secretary and State Health Officer, the appointment to become effective July 1. At a previous meeting of the Board, a nominating committee had been appointed with Doctor Hubert B. Haywood, member of the Board of Health from Raleigh, as chairman. Doctor Haywood reported that the committee had had a difficult task to obtain the services of a successor to Doctor Reynolds. Several names of physicians with their qualifications were submitted to the Board at this time, some of them recommended by friends and colleagues. At this meeting, the Board of Health obtained the cooperation of the State Budget Bureau in increasing the salary of the State Health Officer to become effective July 1 to \$10,000 annually. In the final balloting of the Board of Health, three names were presented. Doctor J. W. R. Norton, native of Scotland County and Chief Health Officer of the TVA of Chattanooga, Tennessee, received a majority of the votes. Hence, Doctor Norton's election was made unanimous. After the election of Doctor Norton, Governor Cherry was notified, and the Governor immediately approved the election of Doctor Norton, as required by law.

Effective June 24, Doctor R. Eugene Fox and Doctor William P. Richardson, who had been Director and Associate Director,

respectively, of the Division of Local Health Administration, resigned.

The total expenditures for the State Board of Health for the year ending June 30, 1948, were \$2,684,277.00. Of this amount \$794,774.00 was appropriated by the Legislature; \$11,981.00 by the Zachary Smith Reynolds Foundation for syphilis control; \$424,576.00 general, \$335,700.00 venereal disease control, \$250,079.00 tuberculosis control, and \$35,794.00 cancer control by the United States Public Health Service; \$250,028.00 Maternal and Child Health, \$206,183.00 EMIC, and \$258,017.00 Crippled Children's Service by the U. S. Children's Bureau, and miscellaneous receipts consisting of bedding, dental and laboratory fees totaling \$117,145.00.

On July 1, 1948, Dr. J. W. R. Norton assumed his duties as State Health Officer. Induction ceremonies were held in the auditorium of the State Laboratory of Hygiene. The oath was administered by Chief Justice W. P. Stacey of the North Carolina Supreme Court and the invocation was delivered by the Reverend Dr. Howard P. Powell, Pastor of Edenton Street Methodist Church.

On July 17, 1948, the Executive Committee of the State Board of Health reduced the period of quarantine of poliomyelitis patients from three weeks to two weeks.

The State Board of Health met August 31, 1948. Dr. Ivan M. Procter, Director of the Bureau of Cancer Control, gave an outline of work accomplished up to that time. Dr. G. M. Cooper discussed the proposed program for the care of premature babies. Dr. Charles P. Stevick, Director of the Division of Epidemiology, appeared before the Board with spot maps showing the poliomyelitis epidemic situation. He estimated that approximately 2,500 cases would be reported by the end of the year.

There was a call meeting of the State Board of Health October 7, 1948. Matters pertaining to sanitation and milk production were discussed.

1949. The year 1949 was destined to become a turning point in the Public Health program in North Carolina. The Legislature of that year did more for Public Health than any of its predecessors. There was a spirit of close cooperation between Public Health officials, the Governor and members of the General Assembly. As an outcome of this, approximately \$800,000 in new money was voted for each fiscal year of the new biennium for local health work, which had only been receiving \$350,000 a year. This meant an increase to \$1,150,000 in State funds for local health during the biennium. This legislative session passed various laws beneficial to Public Health. Among other things, it established a single health department in Guilford County in place of the three, namely, Guilford County, Greensboro and High Point. Laws improving the vital statistics procedures also passed by the 1949 Assembly.

It was during 1949 that provision was made to extend Public Health services to every county in the State. Brunswick, Jones and Madison counties came in on March 1, while Pamlico came in on July 1 as the 100th county.

The State Board of Health met in conjoint session with the North Carolina Medical Society at Pinehurst, May 11, as required by law. The oath was administered to Dr. Hubert B. Haywood, who had been re-appointed by the Governor. The terms of Doctors S. D. Craig, of Winston-Salem, and W. T. Rainey, of Fayetteville, having expired, each expressed the wish that he be not re-elected by the State Medical Society. Hence, Dr. John R. Bender, of Winston-Salem, was elected to succeed Dr. Craig, and Dr. Ben J. Lawrence, of Raleigh, was elected to succeed Dr. Rainey.

The terms of Dr. James O. Nolan, of Kannapolis, and Dr. Paul E. Jones, of Farmville, dental member of the Board, both of whom were appointed by the Governor, expired in 1949. To succeed them, Governor Scott named Mrs. James B. Hunt, of Lucama, Route 1, and Dr. A. C. Current, Dentist, of Gastonia.

On May 24, 1949, Dr. C. C. Applewhite became Director of the Division of Local Health Services. During the interim between the resignation of Dr. R. E. Fox, who became County Health Officer in Albemarle and the appointment of Dr. Applewhite, Dr. John H. Hamilton was in charge of this Division in addition to his duties as Director of the Laboratory. Dr. Applewhite came to Raleigh from New Orleans, where he had been stationed as Regional Medical Director for the U. S. Public Health Service.

On June 30, 1949, Miss Helen Martikainen, who had been in charge of the Public Health Education Section, severed her relations with the North Carolina State Board of Health to accept an assignment on the Public Health Education Staff of the World Health Organization in Geneva, Switzerland. She was succeeded here on July 1 by Miss Elizabeth Lovell. Effective July 1, 1949, mental health activities were transferred from the Hospitals Board of Control to the State Board of Health by order of the Governor. At that time, a Mental Health Section was set up under Miss Dorothea Dolan, who was loaned to the State Board of Health by the U. S. Public Health Service.

July 1, 1949, not only marked the completion of arrangements for Public Health services in all the counties, with the entrance of Pamlico, but was the beginning of a new era in financial support. As previously stated, State aid for local health work was increased by legislative appropriations from \$350,000 to \$1,150,000. Funds allocated for the coming fiscal year included \$2,693,246 in funds represented by the counties themselves. This was an increase of \$225,386 over the amount of local money available at the beginning of the previous year. The General Assembly of 1949 made an appropriation in its perma-

nent improvements bill of \$600,000 for the erection of a building to house the State Health Department. However, various complications arose which necessitated a series of delays.

On September 15, 1949, the State Board of Health met in the O'Henry Hotel in Greensboro during the meeting in that City of the North Carolina Public Health Association. At this meeting, attention was called to the fact that North Carolina had been granted \$65,000 in Federal funds for a study of diseases of the heart. It was decided to give attention to a plan whereby this money might be spent in accordance with basic rules and regulations of the U. S. Public Health Service. At this same meeting, the proposed new health building was discussed and the Board went on record as favoring Caswell Square where the present building is located as a suitable site.

On November 3, 1949, the State Board of Health voted membership in the North Carolina Health Council. Dr. Hubert B. Haywood and Dr. John H. Hamilton were named as associate members of the Council to represent the Board. Dr. Norton is on the Executive Committee.

1950. The year 1950 saw not only increased expansion in local health work, but also re-organization of the State Health Department so as to make operation less cumbersome. Several plans were submitted, but the one finally agreed upon, which was made effective as of February 1, reduced the number of divisions to six, placed in charge of a director and designated the subdivisions as sections. Central Administration is directly under the State Health Officer. Public Relations, Budgets, Personnel, Printing, Mailing and Filing were placed in the group of activities directly under the Health Officer. Other divisions were set up as follows:

Personal Health, Dr. George M. Cooper, Director. This includes the following sections: Maternal and Child Health, Crippled Children, Nutrition, Cancer and Heart Diseases.

Local Health, Dr. C. C. Applewhite, Director. Under this official, the following sections operate: Administrative, Public Health Nursing, Mental Health, Health Education and School Health

Epidemiology, Dr. Charles P. Stevick, Director. This division includes the following sections: Public Health Statistics, Communicable Diseases, Venereal Diseases, Tuberculosis, Industrial Hygiene, Accident Prevention.

Sanitary Engineering Division, Mr. J. M. Jarrett, Director. Sections: Sanitation, Environmental, Public Eating Places, Milk, Bedding, Shellfish, Engineering, Insect and Rodent Control, stream Sanitation.

Laboratory Division, Dr. John H. Hamilton, Director. This division includes biologics, microscopy, cultures, serology, water, chemistry and approved laboratories.

Oral Hygiene Division, Dr. Ernest A. Branch, Director. In this division, we find Visual Education, Lectures, Literature, Consultation, Correction and Prevention.

On May 3, 1950, the State Board of Health met in Pinehurst. It was stated at this meeting that progress was being made to bring about a better understanding with members of the North Carolina Optometric Society. While several problems remained to be solved, it was evident that a spirit of mutual respect had been in evidence at conferences previously held. Still no decision had been reached as to the location of the new health building, Dr. Norton told the Board. He again emphasized the advantages of the site on which the building is now located and reported to the Board that other sites, including the one on New Bern Avenue, formerly occupied by the Confederate Soldier's Home had been considered and found to be undesirable. At this meeting, a resolution was adopted extending the boundaries of the Catawba Heights Sanitary District in Gaston County.

The fiscal year of 1949-50, which also concluded the biennium, ended with increased Public Health activities all over the State. Unfortunately, however, the clouds of war again were gathering and Public Health was beginning to give thought to the possible mobilization of its forces for any eventuality which might ensue.

A detailed account of the organization work of each one of the divisions covering the activities of this biennium will be found in the pages to follow.

REPORT OF THE SECRETARY-TREASURER AND STATE HEALTH OFFICER

July 1, 1948 - June 30, 1950

Excerpts of the activities of the State Board of Health as recorded in the Minutes:

July 17, 1948. The first meeting of the North Carolina State Board of Health for the biennium beginning July 1, 1948 - June 30, 1950 was a called meeting of the Executive Committee, which met on Saturday, July 17, 1948. The Executive Committee of the State Board of Health composed of Dr. S. D. Craig, President, Dr. Hubert B. Haywood and Dr. W. T. Rainey, met,—in addition to telephone conversations with Dr. John LaBruce Ward and Dr. H. Lee Large, and approved a revision in State Communicable Disease regulations pertaining to poliomyelitis by reducing the period of quarantine of patients from three weeks to two weeks.

Also the salary of Dr. Carl V. Reynolds for the month of July, 1948, was discussed. It was approved that Dr. Reynolds be paid \$1,000.00 from the "Special Reynolds Fund Account" for services as Acting Director of Local Health Administration in the absence of a director or district director, and as special consultant in orientation service to the new State Health Officer.

August 31, 1948. The State Board of Health met in regular session Tuesday, August 31, 1948, at 10:00 a. m., in the auditorium of the State Laboratory of Hygiene, with President Craig presiding. Oath of Office was administered to Dr. H. Lee Large, who was re-appointed as a member of the State Board of Health by the Governor, for a term expiring May 1, 1951.

Secretary Norton read the Minutes of the regular meeting of the Board on May 5, 1948, and of the called Executive Committee meeting July 17, 1948, both being approved as read.

Dr. I. M. Procter, Director of the Bureau of Cancer Control, was recognized. He discussed the cancer program which is carried out under an Act passed by the 1945 Legislature, in cooperation with the Cancer Committee of the Medical Society of the State of North Carolina and the North Carolina Division of the American Cancer Society. Dr. Procter gave a most interesting and instructive outline of the activities of the work summed up principally as follows:

1. The basis of the cancer control program in the State.
2. What is the plan of operation and how it operates.
3. What we propose to do
4. What it will cost.

The objective is the greatest amount of service, in the shortest time possible, to the largest number of citizens of the State; and, the problem is how to do the job efficiently, economically and speedily. Fifteen clinics are to be set up throughout the State, and three are now in operation, —Wilmington, Asheville and Winston-Salem. A proposed budget of the Cancer Bureau for 1949-'51 was presented to each member of the Board for study.

Dr. G. M. Cooper, Director of the Division of Preventive Medicine, discussed briefly the proposed program of care for prematurely born babies. This is a new program of the American Academy of Pediatrics started about three or four years ago when they put on an intensive nationwide survey on medical care of children, securing fundamental facts concerning the whole pediatric problem, and have already spent over a million dollars of their own money.

Among conclusions reached is that the biggest block of mortality in infants under a year of age is prematurely born babies. So, one of the first efforts to be made in bettering the condition of infants all over the country is to make nationwide provision for their immediate care under pediatricians and getting them into suitably equipped hospitals, for the care of every prematurely born baby, as soon after its birth as possible.

The members of the Board paid unanimous tribute to Dr. Cooper, and went on record as expressing their appreciation of his interest, loyalty, and his conscientious and untiring efforts during his long association with the Board of Health.

Dr. C. P. Stevick, Director of the Division of Epidemiology, discussed the current poliomyelitis outbreak presenting spot maps showing the location of the cases and charts comparing incidence of the cases in 1948 with previous years. The estimate was made that approximately 2500 cases would probably occur during 1948. The policy followed by the administrative staff in the control program was briefly outlined. Dr. Stevick stated that recommendations pertaining to procedures instituted during the epidemic had been secured from representatives of the National Foundation for Infantile Paralysis, the U. S. Public Health Service, and the Yale Poliomyelitis Epidemiology Unit. The hospitalization program was stated to have progressed very satisfactorily under the supervisory direction of the National Foundation for Infantile Paralysis, with the close cooperation of the State Board of Health and the officials of the State Medical Society. Dr. Norton further commented on the policies followed by the State Board of Health. A letter was sent to all local health officers regarding a conference with Dr. Clyde A. Erwin, State Superintendent of Education and your Secretary regarding the opening of schools. Since there has been such a great variation in the number of poliomyelitis cases in the various counties, the date of opening of schools in each county was left to the discretion of the local health officers and county superintendents of schools, along with their local board of health and board of education.

Dr. Norton paid tribute to the very excellent, conscientious and thorough work done during the epidemic by Dr. Stevick.

The Board amended Regulation 39 of the Communicable Disease regulations of the North Carolina State Board of Health as follows:—"Paragraph 1 of Regulations 39 of the Communicable Disease Regulations of the North Carolina State Board of Health is hereby amended by changing the word "twenty-one" to "fourteen."

Dr. Large stated that some general statement should be made to the public in regard to polio, and made a motion that Dr. Norton be instructed by the Board to prepare a statement of general information and directives that can be passed on to the local public health units and to the public. Motion seconded by Dr. Dixon and carried unanimously.

Dr. Norton discussed briefly his numerous official activities since taking office, July 1, 1948, at the peak of the polio epidemic. He also reported on the Federal Stream Pollution Act and developments to-date regarding State cooperation in the program, and said that a letter had been received from the Attorney General in which he stated, in his opinion, the State Board of Health is the designated cooperative State agency for the purpose of the Federal Act. Too, Dr. Norton told of the recent conference held with the local health officers for the purpose of discussing State aid to local health work, legislation, etc. The meeting seemed to be appreciated by the health officers and current subjects were discussed frankly and informally. Shortage of professional personnel was discussed by the Secretary, as was also salaries. Dr. Norton reported to the Board, however, that the Budget Bureau had approved stepping up the ceiling from \$6,000 to \$7,500 for the director of the Division of Local Health Administration and to \$7,000 for five division directors,—Preventive Medicine, Oral Hygiene, Sanitary Engineering, Epidemiology and Vital Statistics, and Laboratory of Hygiene.

For their review and study, each member was given an organization chart of the Board. There are now eleven different divisions in the Health Department. It is desired that the chart be simplified and streamlined by cutting down on the number of divisions and bureaus. Also tentative summary draft of the biennial budget for 1949-1951 was distributed for study and discussion at a later meeting.

October 7, 1948. A special called meeting of the State Board of Health was held in the auditorium of the State Laboratory of Hygiene, for a session at 10:00 a. m., to 1:00 p. m., and 2:00 p. m., to 4:00 p. m., Thursday, October 7, 1948. For the afternoon session, representatives of local health departments were invited to sit in for consideration of the budget, etc., for the biennium 1949-'51. The meeting was called to order by President Craig. Secretary Norton read the minutes of the regular Board meeting held August 31, 1948, which were approved as read.

Dr. Norton read a letter to the Board from Dr. G. M. Cooper expressing appreciation to the members for the resolution concerning him adopted at the August Board meeting. Also Dr. Norton discussed the general statement released to the public on poliomyelitis requested at the last Board meeting.

Secretary Norton presented an amendment to Item II of the Abattoir Regulations relating to cleanliness of employees of the four units—Meat Markets, Abattoirs, Frozen Food Locker Plants, and Poultry Processing Plants.

On motion of Dr. Dixon, seconded by Dr. Haywood, the following paragraph amending Item II of the Abattoir Regulations, was carried:

“Before permitting any persons to work in an abattoir, the management shall require that each employee submit and keep on file with the management at the abattoir a medical health certificate signed by a health officer or physician certifying that said employee is free from any communicable diseases. Each health certificate should be renewed at least annually.”

Mr. R. L. Caviness of the Sanitary Engineering Division, and Chairman of the Subcommittee on Local Ordinances of the N. C. Milk Study Commission, appeared before the Board and summarized and gave a concise report on the activities, so far, of the Milk Commission. There was much discussion. It was learned that the vacancy on the Milk Commission, due to the death of Dr. Frank A. Sharpe, had not been filled. Dr. Haywood moved that the State Board of Health ask the Governor to appoint Dr. James F. Robertson, President of the N. C. Medical Society, Wilmington, N. C., on the Milk Commission to replace Dr. Sharpe, deceased, or with someone from the State Medical Society. Motion seconded by Dr. Rainey, and carried unanimously.

After further discussion, on motion of Dr. Haywood, seconded by Dr. Jones, the following resolution was adopted:

“WHEREAS, the 1947 Legislature authorized the Governor of North Carolina to appoint a special Commission of 17 citizens of the State of North Carolina for the purpose of studying the existing laws of the State relating to the production, processing, handling, and distribution of milk and other dairy products, and inquiring into the regulations in the various counties of the State, and likewise studying the nature and application of laws and regulations in other jurisdictions, and likewise studying the possibilities of further and larger production of milk in the State of North Carolina, with added safeguards for the protection of the public, and that such Commission so appointed by the Governor to be known and designated as the North Carolina Milk Commission, the membership of the Commission to be composed of:—

- (1) The head of the Dairy Division of the State Department of Agriculture.
- (2) One farmer actively engaged in the production of milk.
- (3) One person actively engaged in the processing and distribution of milk.
- (4) One representative from the dairy manufacturing department of State College.
- (5) One representative from the dairy production department of State College.

- (6) One manufacturer and distributor of ice cream.
- (7) One producer and distributor of milk.
- (8) One County Health Officer.
- (9) A member of the State Board of Health.
- (10) A producer and distributor of raw milk.
- (11) One person representing the city or county government in North Carolina.
- (12) One licensed veterinarian who is a member of the State Veterinary Association.
- (13) The President or some other official representative of the North Carolina Medical Society.
- (14) Three representatives from the public at large who are not engaged directly or indirectly in producing, processing, or distributing milk or other dairy products.

"WHEREAS, this Commission was appointed by the Governor, later met for organization and was divided into subcommittees by the Chairman for the specific purpose of studying four definite phases of the problem, and

"WHEREAS, the subcommittee met as a whole and presented their reports to the full Commission on September 7, 1948, and after hearing these subcommittee reports, it was the opinion of the majority of those present that a final report would be prepared which would recommend that no change be made in the present organization and administration of the milk control program in North Carolina, and

WHEREAS, it seems that the public health phases of this program have not been properly considered and studied by the Commission prior to acceptance of the report,

"NOW THEREFORE BE IT RESOLVED, that the North Carolina State Board of Health, believing that the administration of the sanitation of milk supplies in North Carolina is primarily a public health matter, desires to be heard by the full Commission, and, therefore, requests an opportunity of appearing before the Milk Commission referred to above, at an open hearing, prior to the time it submits its final report to the Governor and the Legislature, and

"BE IT FURTHER RESOLVED, that the report of the Subcommittee on Local Ordinances express the thinking and attitude of the State Board of Health."

Further, Dr. Haywood moved that the State Board of Health give more publicity to the necessity for a better grade of milk, and that the State Health Officer be instructed to see that such press articles, releases, etc., are distributed. Motion seconded by Dr. Rainey, and carried unanimously.

Dr. Norton announced the meeting of the N. C. Public Health Association to be held at the Washington Duke Hotel, Durham, N. C., October 18-29, 1948, and extended an invitation to all Board members to attend the meeting.

A new State Board of Health Building was discussed. On motion of Dr. Dixon, seconded by Dr. Rainey, the following resolution was unanimously adopted, and the Secretary instructed to forward the request to the Advisory Budget Commission:—

“WHEREAS, the office space allotted to the State Board of Health on Caswell Square in Raleigh is inadequate to permit the effective administration of the Public Health Program, and

“WHEREAS, overcrowding, poor illumination, inadequate ventilation, ineffective heating, and other undesirable features exist, which the State Board of Health could hardly approve for private industry and

“WHEREAS, the storage space is so limited that supplies, records and equipment of the State Board of Health must be stored in five different buildings, and

“WHEREAS, in 1947 the State Buildings and Grounds Committee appointed an architect to draw up plans and specifications for a new State Board of Health Building.

“THEREFORE, Be it Resolved that the Advisory Budget Commission be respectfully requested to include in their building program to be presented to the 1949 General Assembly a request for an appropriation to provide adequate offices and storage space for the State Board of Health.”

The Budget Officer, Miss Mae Reynolds, was present and presented the Budget for the next biennium, 1949-1951. There was general discussion of the various items requested, after which the Board adjourned for lunch, to reconvene at 2:00 p. m.

For the afternoon session representatives of local health departments were invited to sit in and participate in the discussion of the budget for the biennium. The Secretary explained to the joint session the purpose of the meeting, and called on the Budget Officer, Miss Reynolds, to review the official General Fund budget for the biennium 1949-1951, which was summarized fully and informatively. The budget request also represented a joint planning of School Health Education and Health Services on the part of the State Board of Education and the State Board of Health. All present participated in the discussion. The only item receiving special discussion by members was the \$900,000 item for School Health.

Dr. Dixon made a motion, seconded by Dr. Jones, that the Board request \$779,800 the first year and \$900,000 the second year, for the School Health Program, and give the reason for asking for this amount. This motion was killed.

Dr. Rainey made a motion, seconded by Dr. Nolan, that the Board of Health approve the general budget as submitted including the request for \$900,000 for School Health work in view of the dire need for health work among school children. This motion carried.

December 16, 1948. The regular quarterly meeting of the State Board of Health was held in the office of the State Health Officer in the Health

Building, Thursday, December 16, 1948, at 10:00 a. m. The meeting was called to order by the President, Dr. Craig. The Secretary read the Minutes of the Board meeting held on October 7, 1948, which were approved as read.

Secretary Norton reported to the Board that he had complied with their request at the October meeting in notifying Governor Cherry of the vacancy on the Milk Commission caused by the death of Dr. Frank A. Sharpe—and that Dr. A. S. Root of Raleigh had been appointed to fill this position; and, since this appointment a meeting of the Milk Commission had been held, and that Dr. Root took a very active part in the discussions. Responsibilities for carrying out milk regulations were discussed by the Board.

Dr. Norton reported that he had written the letter to Mr. R. G. Deyton transmitting the resolutions regarding a new State Board of Health Building, which was acknowledged by Mr. Deyton.

Secretary Norton presented for the approval of the Board a set of special regulations for the watershed of the Town of Pittsboro, North Carolina. Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, had investigated the inadequacy of the water supply situation at Pittsboro very thoroughly, and had discussed the revised suggested regulations with the town officials, and others. Upon motion by Dr. Haywood, seconded by Dr. Ward, special regulations for the protection of the watershed from which the public water supply at Pittsboro is derived, was unanimously adopted. (Copy of revised Pittsboro watershed regulations filed in Minute Book.)

Secretary Norton discussed progress and development of plans for obtaining appropriations for the biennium. He reported that he had had opportunities of meeting with a good many medical societies, local health department staffs, civic clubs, and other groups, to discuss problems with regard to health, and that everyone seemed to be very much interested. Also, that if the Legislature would only provide the Board with additional funds, that local health departments were ready to make plans for strengthening their health services by adding needed personnel to carry on school health work, and general public health activities.

Another problem discussed was securing adequate medical public health personnel. The opinion was expressed that it might be well to contact young medical students and inform them of the opportunities and advantages offered in the field of Public Health. Too, it was discussed that it might be well to have some pamphlets printed for distribution on "Opportunities in Choosing a Public Health Career", or "Health Officers for the Future", etc., and have trained public health workers sent to Medical Colleges to familiarize students with the opportunities in a public health career.

Mr. Jackson made a motion that Dr. Norton be named chairman of a committee, and to select members to assist him to prepare literature, etc., and to arrange appearances before senior classes in Medical Colleges, appealing for students to specialize in public health. Motion seconded by Dr. Dixon and unanimously carried.

In discussing special plans for developing a more adequate school health program, Dr. Norton reported that this is a conjoint activity of the State Board of Health and the State Department of Public Instruction, and that Dr. Stevick, Mr. Spencer, Dr. Erwin and he were working very cooperatively, and were progressing.

Dr. Dixon suggested that it might be well for the Secretary to consider preparing a bill authorizing the State Board of Health to approve plans for the renovation of, and for new public school buildings in the State, and for better facilities in sanitation, ventilation, heating and lighting.

Discussion of the re-organization of the chart of the State Board of Health was postponed until the next meeting.

Dr. Jones presented the question of treatment of drinking water with sodium fluoride to prevent dental caries. There were discussions in regard to this subject as many inquiries are coming to the Board from different sections of the State as to the advisability of adding fluorine to public water supplies. Dr. Jones moved that the following policy be adopted. Motion seconded by Dr. Haywood, and was carried.

"Present information, as revealed in a recent symposium on fluorine in drinking water, is that the presence of naturally occurring fluorides in drinking water, up to 1.5 parts per million, tends to inhibit dental caries. Experiments are now in progress, and some are nearing completion, to determine whether or not the addition of fluorine will reduce the incidence of dental caries and, at the same time, have no ill effects on other tissues and structures of the body.

"The State Board of Health takes the position that this is still in the experimental stage and does not care to go on record as unqualifiedly recommending its use. We call especial attention to the fact that there is a small margin of safety between 1.5 parts per million which may be beneficial and 2 parts per million which may cause mottling of the enamel of the teeth.

"If the officials of municipal or other water suppliers wish to fluorinate their water supplies, we do not oppose this step, provided that:

"1. The city furnishes qualified technical personnel to supervise its application.

"2. The proposed plan of the procedure of application and of the supervision of operation be submitted to the State Board of Health for approval before its application is begun.

"3. Chemical analyses of both the raw and finished water be made daily by a laboratory technician approved by the State Board of Health to insure that the fluorine content of the finished water does not exceed 1.5 parts per million as established in the U. S. P. H. S. drinking water standards.

"4. The daily laboratory findings be submitted to the State Board of Health, monthly, with the regular water purification plant operation reports.

"5. We also suggest that municipalities contemplating this measure first secure the approval of their local dental and medical societies."

Secretary Norton made a report on the poliomyelitis situation in the State, and said to-date, December 16th, 2,494 cases had been reported and 142 deaths.

Secretary Norton told the Board about the possibilities of having a branch office, with laboratory, for the Division of Industrial Hygiene, located at some point in Western North Carolina where the majority of the plants with silica dust hazard and the cotton textile plants are located. This request was made for consideration in view of the fact that so much time is required for the engineering staff to travel to and from industrial plants. No definite steps have been taken, but from a preliminary study it looks as if it will be a saving of considerable time and expense, and a further report and discussion can follow at a later Board meeting.

February 17, 1949. The State Board of Health met in regular quarterly session Thursday, February 17, 1949, at 10:00 a. m., in the auditorium of the Laboratory of Hygiene, President S. D. Craig, presiding.

It was moved that the reading of Minutes of the Board meeting of December 16, 1948, be dispensed with at this time.

The Legislative Committee representing the local health departments met jointly with the Board. Secretary Norton told the Board of the activities of this Committee in presenting budgetary information and the needs of local county, county-city, district and city health departments to county commissioners, county medical and dental societies, various business and civic groups, and newspaper and radio releases. Too, the Secretary brought to the attention of the Board the fine letter and enclosure on "Local Public Health Needs" issued by the Secretary of the N. C. Tuberculosis Association relative to the requested increased appropriation for local health departments. Dr. Craig reported that Dr. James F. Robertson, President of the N. C. State Medical Society, had extended to Dr. Norton the privilege to appear before District Medical meetings and the meetings of the Executive Committee and House of Delegates' meetings of the Medical Society.

Reports and comments were made by all present and suggestions of ways and means of continuing the request for the increased appropriation for State Aid to local health departments in order that a much needed stepped-up health program might be carried out.

Secretary Norton regretfully reported that Dr. Cooper had been in an automobile accident—that his collar bone was broken, but that he was resting fairly comfortably. A motion was made by Dr. Haywood, seconded by Dr. Ward that a message expressing the Board's deepest regret and sympathy of his accident, and of their hope for a speedy and complete recovery. Motion unanimously carried.

Dr. Haywood was recognized. He presented a spot map of North Carolina showing the distribution of students at the State School for the

Blind and Deaf for 1948, by counties, race and sex. He stated that the N. C. State Board of Health did pioneer work in the prevention of blindness by requiring the use of silver nitrate in the eyes of the newborn infants; that out of the 305 in the Raleigh Blind School, 100 came from families where blindness was hereditary. Dr. Haywood stated that he thought the State Board of Health could render much service by making the problem of blindness part of its educational program at the present, in anticipation of action in the future. After further discussion, Dr. Haywood moved that since statistics gathered by the heads of the Blind Schools in North Carolina show, at the present time, that we have 305 blind children, or partially blind, in the institutions of this State out of which 100 of the 305 have familial, or hereditary blindness, and on the basis of these figures that the North Carolina State Board of Health continue its interest in the prevention of blindness in North Carolina by an educational program in conjunction with the State Commission for the Blind, and that at the appropriate time, after a thorough study of this problem has been made, that we may wish to ask the Legislature that the sterilization law apply to selected cases. Motion seconded by Dr. Dixon, and unanimously carried.

Secretary Norton made a report on his recruitment efforts which included a talk on the need of career medical men in the specialty of public health, to the senior premedical students at Wake Forest, the Bowman Gray Medical School and Duke University; also, an advertisement had been placed in the American Journal of Public Health and the Southern Medical Journal. Too, he had interviewed Dr. C. C. Applewhite, who is retiring from the U. S. Public Health Service, and others relative to employment. Also, the Secretary gave the encouraging report that by March 1st he hoped to have ninety-nine of the one hundred counties with whole-time health departments. Pamlico County is the only one which has not arranged for some form of full-time health work.

May 11, 1949. The annual meeting of the N. C. State Board of Health was held, as required by law, on the second day of the annual meeting of the Medical Society of the State of North Carolina, at the Carolina Hotel, Pinehurst, N. C., May 11, 1949, with President Craig presiding.

Motion was made by Mr. Jackson, seconded by Dr. Dixon, that the reading of the Minutes of the Board on December 16, 1948, and February 17, 1949, be postponed. Motion carried.

The Oath of Office was administered to Mrs. James B. Hunt, who was appointed by Governor Scott as a member of the State Board of Health, for a term expiring May 1, 1953, and to Dr. Hubert B. Haywood, who was re-appointed by the Governor for a term expiring May 1, 1953.

Secretary Norton gave a brief resume of the surplus government property of the War Assets Administration located at Fort Caswell, North Carolina, and known as the U. S. Naval Ex-Section Base. The property consists of approximately 248 acres and 72 buildings. The Board of Health has been considering it for use as a hospital and research cancer and geriatric center. After inspection of this base by Dr. J. F. Robertson, President of the State Medical Society, Dr. T. Leslie Lee, President

State Cancer Society, Dr. John H. Hamilton and your Secretary, and a visit to the State Board of Health by the Real Estate Disposal Officer of the War Assets Administration, it was deemed advisable to withdraw the Board's request for priority consideration. Since the Medical Society meeting convened, President Robertson thinks it of vital importance that we request a re-opening of our priority request for further consideration of this property—which has been done—and Dr. Robertson, Dr. Mildred Schram of the Cancer Division, and others plan to go to Atlanta, if necessary, to secure more detailed information before the matter has been definitely closed.

Dr. G. M. Cooper, Director of the Division of Preventive Medicine, appeared before the Board and discussed the optometrists' participation in school vision conservation programs. Action was deferred. Also consideration of the tentative joint statement of policy regarding school health was postponed, but copies were distributed for review and information to members.

Secretary Norton presented the proposals for the organization of a State Health Council, with questionnaire attached, as a matter of policy. On motion of Dr. Ward, seconded by Dr. Dixon, action on the proposed State Health Council was postponed until a later meeting. Motion carried.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, was present and discussed suggested changes to be made in foodhandling regulations. These suggestions had previously been forwarded to each member of the Board. After discussion by members of the Board, a motion was made by Dr. Dixon, seconded by Mr. Jackson, that the revisions and corrections as suggested in the SANITATION OF RESTAURANTS AND OTHER FOODHANDLING ESTABLISHMENTS, be approved. Motion carried. (Copy filed in Minute Book.)

Mr. Jarrett also presented revised score sheets to be used in the inspection of ABATTOIRS, FROZEN FOOD LOCKER PLANTS, POULTRY PROCESSING PLANTS AND MEAT MARKETS. These score sheets had not been officially adopted as the Division was trying them out in order to make any adjustments before final adoption. Upon motion of Dr. Dixon, seconded by Dr. Ward, the score sheets for the above named plants were officially adopted. Motion carried.

A revised score sheet for RESTAURANTS AND OTHER FOODHANDLING ESTABLISHMENTS to care for the revisions in the regulations adopted at this meeting was also presented, and upon motion of Mr. Jackson, seconded by Dr. Rainey, was unanimously adopted.

Mr. Jarrett also discussed revisions being made in the watershed regulations. He suggested that he be allowed to send these to each member of the Board for their study prior to the meeting on May 19th at which time some action is to be taken regarding them. Mr. Jarrett stated that all these revisions were being made at this time because of the passage of Senate Bill #5 by the 1949 Legislature requiring certified indexed copies of all regulations to be sent to each Clerk of Court and

to each member of the Legislature. By making the revisions at this time it will relieve the State Health Officer of considerable work with regard to certification in the near future.

Dr. Dixon discussed the appropriation made by the General Assembly for the construction of a Health Building, and stated that since the Medical Society had recommended that the Society undertake to have central offices in Raleigh, he wondered about the possibility of the Council of State agreeing to some arrangements whereby the Medical Society, Dental Society, Nurses Society, the Board of Medical, Dental and Nurse examiners, and perhaps others, could be allowed the privilege of headquarters in the new State Health Building. After discussion, Dr. Dixon moved that Dr. Norton be asked to confer with the Council of State—present the above request and ascertain if adequate space in the new building could be obtained for housing the various boards. Motion seconded by Dr. Rainey, and carried.

For information of Board members, a copy of "An Act Providing for the Care of Infants Prematurely Born in the State of North Carolina", and also a copy of the "Premature Infant Care Program", was distributed.

May 19, 1949. There was a called meeting of the State Board of Health held in the auditorium of the Laboratory of Hygiene, Thursday, May 19, 1949, at 9:00 a. m. Dr. G. G. Dixon, Vice-President, presided. The meeting was called to order and Oaths of Office administered by Associate Justice E. B. Denny of the State Supreme Court, to Dr. John R. Bender of Winston-Salem and Dr. Ben J. Lawrence of Raleigh, both having been elected to the Board by the State Medical Society at the meeting in Pienhurst, May 11, 1949, for four-year terms. Doctors S. D. Craig and W. T. Rainey retired from the Board at this time.

The Secretary read the Minutes of Board meetings held on December 16, 1948, February 17 and May 11, 1949, which were approved as read.

Mr. George Cherry, State Superintendent of Buildings and Grounds, was presented, who discussed possible sites for the erection of a new Health Building. Mr. Cherry stated that the Legislature had appropriated \$600,000 for a new building and that construction could begin just as soon as a site had been selected and architectural plans drawn. In discussing the type of building, etc., Mr. Cherry stated that it might be possible to have a structure seven stories tall, with adequate parking space. Two sites were suggested for the location of the building—one being on Caswell Square, corner of McDowell and Lane Streets and another on Dawson and W. Jones Streets, and that if it was decided to purchase additional lots that it would be taken care of out of the General Fund and would not reduce our appropriation for building. The possibility of plans whereby office space could be used as headquarters by the Medical, Dental and Nurse Societies, the Board of Medical, Dental and Nurse Examiners, and others was discussed. Mr. Cherry stated that this was a question for the Council of State to decide, and Secretary

Norton was asked to investigate to ascertain what arrangements could be made and advise the Board. Also the Secretary was to investigate the possibility of Federal assistance in the construction.

Motion was made by Mr. Jackson, seconded by Dr. Bender, that Dr. G. G. Dixon be elected President of the Board. Motion carried unanimously.

Motion was made by Mr. Jackson, seconded by Dr. Large, that Dr. Hubert B. Haywood be elected Vice-President of the Board. Motion carried unanimously.

Secretary Norton reported that Dr. C. C. Applewhite, retired from the U. S. Public Health Service, New Orleans, La., would report for duty about June 1st. Dr. Applewhite is to be Director of the Division of Local Health Administration. Also Dr. Norton stated that beginning July 1, 1949, all one hundred counties of the State would have some form of whole-time public health work.

In further discussing the Fort Caswell proposition for a hospital site, Secretary Norton stated that the group had talked with Governor Scott and found there was no money in the contingent fund that could be used to operate the hospital, therefore cancellation of the priority request had been made.

Dr. John H. Hamilton, Acting Director of the Division of Local Health Administration, appeared before the Board and presented various plans for the allocation of funds to be made available to local health departments. Dr. Hamilton stated that \$800,000 additional funds was appropriated by the General Assembly for improving local health work, plus \$175,000 for general aid to local units, and \$175,000 for venereal disease control—a total appropriation available for distribution to the counties of \$1,150,000 of State funds. Several plans and suggestions were discussed, at length, for the allocation of these funds. Finally, the following Board policies were adopted:

Dr. Large moved that the venereal disease fund be allocated as in the past. (According to population, income and location of venereal disease problem.) Motion seconded by Dr. Lawrence, and carried.

Dr. Large moved that we eliminate from consideration an incentive to pay counties an additional \$500,000 for consolidation of registration of vital statistics being located in a health department. Motion seconded by Dr. Haywood, and carried.

Dr. Large moved that we strike out from consideration an incentive "that a health officer devoting full time to health work"—that the county be given \$1,000.00 extra. Motion seconded by Mr. Jackson, and carried.

Dr. Large moved that the Board increase the lump sum allotment to a county for general health purposes from \$1,680.00 to \$3,000. Motion seconded by Dr. Haywood, and carried.

Dr. Large moved that each local health unit be allocated forty cents (40c) for average daily school membership, and that we give five to eight

cents, according to whatever it figures out for general population by the last census; and, that each county health unit or City health unit, be allocated \$250.00 for ten-weeks dental program or \$500.00 for twenty-weeks dental program. Motion seconded by Dr. Haywood, and carried.

Dr. Large moved that in counties NOT having a retirement system that 6% of the State allocation, including Federal funds, be deducted. Motion seconded by Dr. Haywood, and carried unanimously.

The Board discussed plans for the distribution of Federal funds to health units but decided to continue as in the past.

President Dixon announced the Executive Committee as follows: Dr. G. G. Dixon, Chairman; Dr. Hubert B. Haywood and Dr. H. Lee Large.

In discussing the possibility of a health unit decreasing its local health appropriation, Dr. Large made a motion that it be understood that the increase in funds of the State allotment is being made to enable an increase in actual health work, and that any local health unit having a decrease in its local appropriation below the level of the current year, will have a commensurate decrease made in the State's allocation. Motion seconded by Mr. Jackson and was carried unanimously.

The Board debated, at length, on local health programs, problems and activities. Dr. Haywood moved that it be the policy of the State Board of Health that local health officers adhere strictly to public health work, which does not include the medical care of indigents, those in county jails, and other county institutions. Motion seconded by Dr. Large, and carried.

Secretary Norton presented suggested revisions of the WATERSHED REGULATIONS, copies of which had previously been sent to all Board members. These consisted of rules relating to the protection of unfiltered public water supplies; watershed regulations for protection of filtered surface water supplies having less than 20 square miles in watershed area; regulations of filtered surface water supplies having more than 20 square miles in watershed area and rules and regulations relating to fishing in public water supply lakes and reservoirs. In "Rules Relating to the Protections of Unfiltered Public Public Water Supplies", Item 5, last sentence reading "Such carcasses shall be buried with not less than three feet of cover", Mr. Jackson moved that this sentence should be changed to read "Such carcasses shall be completely burned or buried with a covering of not less than three feet of earth"—and with this correction being made, the revised watershed regulations and regulations relating to fishing on water supply lakes and reservoirs, be adopted. Motion seconded by Mrs. Hunt, and carried.

The optometrists' participation in school vision conservation programs was discussed at length. Dr. Large made a motion, which was seconded by Dr. Haywood, and duly carried, that the following resolution be adopted:

"BE IT RESOLVED, that the State Board of Health of North Carolina recommends to all local health officers and school superintendents that

school health services in all cases be rendered by adequately qualified medical personnel and that school vision testing and the fitting of glasses be performed by or under the supervision of qualified medical specialists as approved by the local Board of Health.

"It is further recommended that schools should participate in no health service program not approved by the local Board of Health.

"The State Health Officer is requested to forward a copy of this resolution to the Superintendent of Public Instruction and to each local Health Officer."

Secretary Norton further discussed the proposals of the organization of the formation of a State Health Council giving the nature, scope and function of the Council. The Board recommended that action be deferred for six months.

Secretary Norton informed the Board of the action taken by Governor Scott in designating the Board of Health as the official State agency to administer the Mental Hygiene program in North Carolina beginning July 1, 1949, in financial cooperation with the U. S. Public Health Service. This transfer of activity from the N. C. Hospitals Board of Control seems desirable in order to make a separation of preventive and outpatient work from the in-patient hospitalization responsibilities comparable to the plan now in successful operation in this State for the care of tuberculosis. Dr. Norton stated that conferences would be held with Dr. David A. Young, Superintendent of N. C. Hospitals Board of Control; Dr. Ellen Winston, Commissioner of Public Welfare, and others, and that the Board of Health would work in complete cooperation and harmony with other related agencies.

The Secretary reported that he had written letters to Drs. Craig, Rainey, Nolan and Jones, retiring Board members, expressing appreciation for their valuable contribution to the progress of public health work during their terms of office.

Before adjournment, the members went to view the proposed sites for the new Health Building and then reconvened for consideration of the location. The matter of a selection of a site was left to the discretion of the Secretary and staff members, and the Executive Committee.

President Dixon stated that he believed in propaganda and much publicity, and personally, he would like to recommend to the Secretary and staff that they increase publicity work one hundred percent, thereby gaining the respect and good will of the citizens of North Carolina.

June 2, 1949. The Executive Committee of the State Board of Health met in the State Health Officer's office, Thursday, June 2, at 9:00 a. m.—all members of the Committee being present, namely: Dr. G. G. Dixon, Chairman, Dr. Hubert B. Haywood and Dr. H. Lee Large. The meeting was called to order by Dr. Dixon, the Chairman.

The Committee further considered the location of the new State Board of Health Building. The two sites considered were (a) corner of Lane

and McDowell Streets behind the U. C. C. Building, and (b) property located on the Northeast corner of Jones and Dawson Streets. The property on the corner of Jones and Dawson Streets was considered far more favorable due to its location, being more accessible, more available room for expansion, more parking space, a better environment for a public health building, etc.

On motion of Dr. Haywood, seconded by Dr. Large, Secretary Norton was authorized to notify the Superintendent of Buildings and Grounds, Mr. George Cherry, that the Board approved the State's acquiring the property at the corner of Jones and Dawson Streets for the site of the new Health Building. Motion carried. The Secretary phoned Mr. Cherry, who said he would proceed with steps to acquire this property, and that no further action by the Board was necessary at this time.

The Executive Committee discussed the allocation of State Aid funds to local health units. It was pointed out that of the three city health departments in North Carolina, namely, Charlotte in Mecklenburg, Rocky Mount in Edgecombe and Nash, and Asheville in Buncombe—that the State made no provision for allocation of any financial assistance for services to considerable portions of their respective counties. It was the general opinion that it would be fair and just to deduct \$1,000.00 from the county allotment of each respective county to supplement the city health budget. Dr. Large moved that in the counties in which separate city health departments are maintained, that \$1,000.00 of the total county allocation shall be allocated to the city health unit. Motion seconded by Dr. Haywood, and carried.

In further discussing Board policies and allocation of funds, the Executive Committee re-considered the following resolution which was passed at the last Board meeting: "that it be a policy of the State Board of Health that the local health officers adhere strictly to public health work, which does not include medical care to indigents, those in county jails and other county institutions". After consideration of this problem, and in order to make an initial step, Dr. Large moved that the Secretary is hereby instructed by the Board to require that the health officers report the percentage of time occupied in performing non-preventive medical activities for at least a year. Motion seconded by Dr. Haywood, and carried.

Dr. Large also moved that Board policies for allocation of State funds to local health units be in force as amended by the Executive Committee as of this date. Motion seconded by Dr. Haywood, and carried.

The "tentative joint statement of policy regarding school health" was brought to the attention of the Executive Committee. A copy of this policy had been given to the members of the Board at their last meeting. Secretary Norton discussed the general plans, stating that a conference had been held with Dr. Clyde Erwin, Superintendent of Public Instruction. Dr. Norton mentioned several minor additions and especially called attention to Item 5 on page 3, stating that this paragraph would be enlarged upon and explanatory sentences incorporated. Dr. Haywood moved that the "tentative joint statement of policy regarding school

health" between the State Board of Education and the State Board of Health, after corrections, be approved. Motion seconded by Dr. Large, and carried.

July 22, 1949. There was a special called meeting of the Executive Committee of the State Board of Health held in the office of the State Health Officer, Friday morning, July 22, 1949, at 9:30 o'clock. All members of the Executive Committee were present—Dr. G. G. Dixon, President; Dr. Hubert B. Haywood and Dr. H. Lee Large.

The meeting was called for consideration of a resolution designating a time and place of a public hearing concerning the creation of a sanitary district in Dare County, North Carolina. Mr. E. C. Hubbard of the Division of Sanitary Engineering, appeared before the Board and reviewed the petition requesting that the proposed sanitary district be created. Dr. H. Lee Large moved for the adoption of the resolution naming the time and place of the public hearing to be held by a representative of the State Board of Health concerning the creation of a sanitary district in Dare County, North Carolina. Motion was seconded by Dr. Haywood, and carried unanimously. (Copy of Resolution filed in Minute Book).

Secretary Norton discussed, in a general manner, the Mental Health Program; the Heart Program; reported the progress being made on the building site, and also the North Carolina Health Council, but no action taken on any subject.

The Executive Committee voted to have the next quarterly Board meeting Thursday, September 15—sometime during the afternoon session of the N. C. Public Health Association meeting.

September 15, 1949. A regular quarterly meeting of the North Carolina State Board of Health was held in Greensboro, N. C., Thursday, September 15, 1949, at 5:00 p.m. in the O'Henry Hotel, this being at the same time and place of meeting as the 38th Annual Session of the N. C. Public Health Association, to which the Board members were formally presented later in the evening.

The meeting was called to order by the President, and Minutes of the Board meeting of May 19, 1949, were read and approved. Also Minutes of Executive Committee meetings of June 2, 1949, and July 22, 1949, were approved as read.

Dr. G. M. Cooper appeared before the Board and explained what might be called a crisis in the financial affairs of the Crippled Children's department. The situation was precipitated by the National Foundation for Infantile Paralysis' withdrawing much of their financial support from the Asheville Orthopedic Hospital effective July 1, 1949. That hospital had been operated as a convalescent home since its organization more than ten years ago by the Crippled Children's department, paying them a flat rate of \$4.00 a day for patients authorized by the department. On April of this year they changed the name of the home to a hospital and made official request to be recognized on the cost analysis basis which, of course, according to their statement, the division felt compelled

to accept. This resulted in a cost per patient advance to \$10.99 a day. The result is that the \$9,000 tentatively allotted to the institution was almost totally absorbed for the care of patients in the month of July. This explanation was made to provide a factual background regarding the difficulties we are having at present on account of the increase in the cost of hospitalization, and as all of our funds for this work come from the Children's Bureau, we have no recourse except to cut down on the number of cases accepted.

Mr. Hubbard of the Division of Sanitary Engineering presented, for final consideration of the Board, the resolution for creation of a sanitary district in Dare County. He stated that all of the transactions, documents and procedures concerning the formation of this sanitary district had been carefully handled in accordance with the requirements of Chapter 100, Public Laws of 1927. Furthermore, after considering the purposes for which the district is requested, surveying the territory to be included, sanitary improvements needed in the area, etc., that the Division of Sanitary Engineering is of the opinion that this petition should be established in the interest of public health. Mr. Jackson moved that the resolution creating the proposed sanitary district to be known as the Dare Beaches Sanitary District in Dare County, North Carolina, be adopted. Motion seconded by Dr. Large, and carried. (Copy of Resolution filed in Minute Book).

Secretary Norton called the Board's attention to some extremely insanitary conditions around migratory labor camps, especially in Transylvania, Henderson and Pasquotank counties. He stated that a conference had been held relative to providing more effectively for migratory laborers with the Commissioner of Public Welfare, Commissioner of Agriculture, the State Health Officer, and others; also, that letters had been written to some of the other states requesting information relating to transient labor camps. After this material has been received and studied, the above agencies will meet again and prepare a proposed draft of more definite sanitary requirements and regulations for migratory labor camps for adoption by this Board.

Dr. C. P. Stevick was present and made an informative and interesting progress report on the joint school health program between the State Board of Health and the State Department of Public Instruction.

Dr. Stevick also presented a report on the N. C. Heart Disease Control program. The U. S. Public Health Service has provided a grant-in-aid of approximately \$65,000 for carrying out a heart disease program, and to receive this grant, a narrative description of the proposed program and a budget must be submitted this month. The proposed plan and tentative budget had been sent to each Board member prior to this meeting, and had also been presented to the N. C. Heart Association. The plan met with the approval of the Heart Association and is in line with basic rules and regulations of the U. S. Public Health Service. It is now ready to be submitted to the executive committee of the State Medical Society for approval or amendments. Dr. Large moved that the

proposed heart disease control program be approved in principle, subject to amendments and alterations. Motion seconded by Dr. Haywood, and carried.

Miss Dorothea Dolan, Psychiatric Social Work Consultant, who is on loan to the State from the U. S. Public Health Service, made an informative progress report on the mental hygiene health work,—this activity having been transferred to the Board of Health July 1, 1949, from the N. C. Hospitals Board of Control.

Secretary Norton again reported on the site for the new Health Building. The property that was under consideration would have cost the State approximately \$80,000, and this would have to be deducted from the \$600,000 authorized by the last Legislature. Just as soon as the Board decides on the site, plans drawn and approved, construction can proceed. After discussion, the Board expressed preference for placing the new Health Building on Caswell Square, property which is owned by the State. Dr. Large moved that the Board go on record as approving a selected site on Caswell Square, and that said new building should bear a symmetrical relationship to the present Laboratory of Hygiene Building. Motion seconded by Dr. Bender, and carried.

Dr. Norton reviewed the proposal for the organization of a State Health Council, this proposal having been deferred at a previous Board meeting. The basic functions of the Health Council are:

- "1. Provide a means for bringing together all organizations engaged in or interested in any health work or problem so that joint studies can be made,
- "2. Provide a means for representatives of the operating official and voluntary health organizations and agencies to come together, to develop mutual understandings and to arrive at effective working relationships,
- "3. Provide a means whereby the citizens and organizations interested in and active in the field of health can take joint action to bring about improvements in the State and community programs and can be represented in other State and community planning activities."

Dr. Haywood moved that the Board of Health participate in the North Carolina Health Council but that we NOT sponsor the Council financially, also that we offer the Board's cooperation and our Secretary as its official representative. Motion seconded by Dr. Large, and carried unanimously.

Secretary Norton discussed briefly a suggested organization chart, but no action was taken.

November 3, 1949. A regular meeting of the State Board of Health was held on Thursday, November 3, 1949, at 10:00 a.m. in the auditorium of the State Laboratory of Hygiene. In the absence of President Dixon, Dr. Hubert B. Haywood, Vice-President, presided.

The meeting was called to order, and the Secretary read the Minutes of the Board meeting held on September 15, 1949, which were approved as read.

Secretary Norton reported on his attendance upon the organization meeting of the North Carolina Health Council, held in Raleigh, September 29 and 30. At that time, it was decided that each agency member or organization should pay annual dues of \$10.00. Dr. Norton also read a letter from Dr. Wm. P. Richardson, President of the Council, asking that two representatives be appointed, indicating which one was to be the voting member, and naming the officers of the Council, members at large of the Executive Committee, etc., Dr. Norton being named on the Executive Committee for one year. After a discussion of the Council, including its proposed health activities and functions, by members of the Board, Dr. Ben Lawrence moved that Secretary Norton's report be accepted and that the Board participate in the Council including the payment of membership dues in the amount of \$10.00 annually. Motion seconded by Mr. Jackson, and carried unanimously. Dr. Lawrence moved the nominations of Dr. Hubert B. Haywood and Dr. John H. Hamilton as associate members of the N. C. Health Council to represent the Board of Health, and that either one able to be present be designated as a voting member. Motion seconded by Mrs. Hunt, and carried.

Secretary Norton gave a narrative progress report and presented the revised budget on the heart disease control program. This program has been approved by the Executive Committee of the N. C. Heart Association and the U. S. Public-Health Service, but subject to amendments or alterations any time during the year. Dr. Norton stated that Dr. C. P. Stevick had agreed to accept the responsibility as Acting Director, without additional pay, until a Director could be secured. It was suggested that something might be worked out on a part-time basis, or that a Board of Heart Disease Consultants, similar to the Mental Health Consultants, be named to assist with the work. It was reported that the N. C. Heart Association had recently been organized and possibly would serve as a nucleus. The total budget approved for the heart disease program for the fiscal year 1950 is \$64,937, \$15,000 already having been sent direct to the State Treasurer.

Dr. Lawrence moved that the Board approve a resolution for raising the salary ceiling of division directors and that the Executive Committee and Secretary be empowered to act, subject to the approval of the Budget Bureau. Motion seconded by Mr. Jackson, and passed unanimously.

Secretary Norton read and discussed two resolutions received from the N. C. State Optometric Society, Inc,—one relating to the testing of vision and the fitting of glasses in the joint school-health program and the other requesting "that the program be immediately amended to eliminate the flagrant discrimination against optometry." The Secretary reviewed and explained the existing policy and the resolutions in connection with the school vision programs. At this point, it was suggested that the Secretary contact the Attorney General and ask for a ruling to ascertain if

the Board is correct in its present policy by stating that this service be rendered "by adequately qualified medical personnel and that school vision testing and the fitting of glasses be performed by or under the supervision of qualified specialists as approved by the local Board of Health." On motion of Dr. Bender, seconded by Dr. Current, the Board moved that no change be made in the present regulations of the joint school-health plan, and that the Secretary be authorized to reply to the President of the N. C. State Optometric Society explaining that it is not the intention of this Board that optometrists be excluded from this work provided it is done under medical supervision. Motion carried.

Dr. I. M. Procter, Director of the Division of Cancer Control, gave the Board an oral report on the progress of the cancer work as to how it is operating, how received and accomplishments. Also copies of the N. C. Cancer Act, an outline of the Statewide program as to the detection; cancer diagnostic-management clinics and follow-up authority for the program, was given each member. Dr. Procter also brought to the Board's attention a request from the Executive Committee of the N. C. Society of Radiologists relative to their fee schedule. There was much discussion, especially relative to the radiologists' fees. Dr. Lawrence moved that the Board go on record as expressing its appreciation of Dr. Procter and of its approval of the cancer program, and in view of this that the Secretary and Dr. Procter be requested to work out a fee schedule acceptable to the roentgenologists. Motion seconded by Dr. Bender, and carried unanimously.

The State Board of Health reconvened at 1:30 p.m. Thursday, November 3, 1949, in the auditorium of the Laboratory of Hygiene, and the Secretary reported on the re-organization chart of the Board of Health. In presenting the new proposed re-organization chart of the Board, the Secretary explained that the divisions and bureaus had gradually increased during the last fifteen years from five until there are now approximately fourteen divisions. For sometime, a staff committee has been studying the present setup, with a view to consolidating some of the divisions thereby reducing the number to six or eight. The primary objectives are economy and relieving the State Health Officer of some of the administrative details which would enable him to devote more time to policy-making matters, etc. Too, reducing the number of divisions and holding the budget of the control office in check, would enable local health work to be expanded more rapidly. After discussion, Mr. Jackson moved that details of the proposed re-organization plan be left with Secretary Norton and his committee, and that they proceed with streamlining the organization and central administration expenses as much as possible without jeopardizing health activities, etc. Motion seconded by Dr. Current, and carried.

Secretary Norton made a progress report in connection with the new office building. Also, Mr. Jones, representing the Wm. Henley Dietrick, Architects, was present and presented a sketch showing the general outline of the tentatively proposed building as to type, size, placement of elevators, rest rooms, etc., and general space allotment to divisions. There was much discussion, especially as to the location of the building,

the present site being State-owned property on Caswell Square facing McDowell Street. On suggestion of the architect, the Board thought wise to look further into placing the new building in a more desirable location, if possible. Dr. Lawrence moved that the Executive Committee, together with the Secretary, be requested to look further into the possibility of obtaining a more desirable location for the new Health Building and that this motion stand as an amendment to the resolution passed at a previous meeting. Motion seconded by Dr. Bender, and carried unanimously.

The Secretary told the Board that he had learned through Dr. Cooper that Dr. Ward had been sick for about three months and will probably go to a hospital for a complete check-up. Mr. Jackson moved that the Secretary be authorized to write Dr. Ward expressing the Board's sympathy and extend best wishes for a speedy and complete recovery. Motion seconded by Dr. Lawrence, and carried unanimously.

February 2, 1950. The regular quarterly meeting of the State Board of Health was held Thursday, February 2, 1950, at 10:00 a.m. in the auditorium of the Laboratory of Hygiene, President Dixon presiding.

Secretary Norton read the minutes of the Board meeting held November 3, 1949. Dr. Lawrence asked that a correction be made in the report of his motion, which was seconded by Dr. Bender, relative to fee schedule as follows:—instead of the wording “an acceptable fee schedule,” it should read “a fee schedule acceptable to the roentgenologists.” There being no other corrections, the minutes were approved as read and corrected.

Secretary Norton told the Board members that he had checked with the officers of the North Carolina Health Council and learned that the Board of Health would have only *one* voting member.

Dr. Lawrence moved that since Dr. I. M. Procter had resigned as Director of the Cancer Control Division of the Board of Health, Dr. John R. Bender be named to assist the Secretary in an effort to work out a fee schedule acceptable to the radiologists. Motion seconded by Dr. Haywood, and carried.

In regard to the request of the Board at the last meeting relative to raising the ceiling salaries of division directors, Dr. Norton stated that he had had a conference with Mr. Henry E. Hilton, State Personnel Director, and Mr. D. S. Coltrane, Assistant Budget Director. They stated that a thorough study is now being made of all State departments, as to their activities, responsibilities and work, in order to develop an adequate rating system. When this study is completed, they said, adjustments will be considered. This committee should be ready to report in a few months, and they asked that the Board bear with them until the study could be finished before making a formal request.

Secretary Norton reported progress on what had been accomplished since the last Board meeting relative to the N. C. Optometric Society. He stated that Dr. G. Westbrook Murphy, President of the State Medical

Society, had appointed a committee consisting of Dr. V. M. Hicks, Raleigh; Dr. Frank Smith, Charlotte, and Dr. H. H. Briggs, Asheville, to represent the State Medical Society in working with a three-man committee representing the State Optometric Society on the matter of vision testing in the school health program.

Doctors Large and Lawrence discussed briefly the discrimination against doctors not members of one of the American Specialty Board. Dr. Large moved that the State Board of Health give some consideration to the influence the American Specialty Boards seem to be having in limiting certain areas of the practice of medicine and surgery to Board members to the exclusion of recognized competence and long experience, and that this subject be considered at some future Board meeting. The motion was seconded by Dr. Lawrence, and carried.

Secretary Norton again reviewed and discussed the re-organization chart of the State Board of Health. Dr. Large moved that the re-organization of the Department into six divisions and Central Administration, as set up by Dr. Norton and his committee, be adopted as presented, effective as of February 1, 1950. Motion seconded by Dr. Haywood, and unanimously carried. (Copy filed in Minute Book).

Mr. Wm. H. Deitrick, Architect, and Mr. Jones, his associate, were introduced and discussed the progress made on the new Health Building plans. Each member of the Board was given blue prints, which have been studied and approved by the division directors. Then the site for the building was brought up. The previously proposed location is on Caswell Square, facing McDowell Street, but the Board thought best to try to find a more desirable location. Dr. Haywood suggested that the Board request the Council of State to aid in securing a better and larger site, the present one not being large enough for building a structure for many years to come, etc. It was the general consensus of opinion that it would be better to defer this matter until a conference could be held with the Council of State. Dr. Haywood moved that the architect be instructed to defer further development of plans until instructed to proceed. Motion seconded by Dr. Large, and unanimously carried.

Mr. J. M. Jarrett, Director of the Division of Sanitary Engineering, outlined and discussed the fluoridation of public water supplies, which was adopted by the Board in 1948. Mr. Jarrett recommended that since the Board is charged with the general supervision of public water supplies, it amend the policy so that "we can advise people who want to do this just how to proceed." Dr. E. A. Branch, Director of the Division of Oral Hygiene, expressed thorough accord with Mr. Jarrett's recommendations regarding the fluoridation of public water supplies. Dr. Large moved an amendment to the policy regarding the fluoridation of public and institutional water supplies as passed December 16, 1948, by adding requirements to be known as the "Required Procedure for the Fluoridation of Public and Institutional Water Supplies." Motion seconded by Dr. Haywood, and carried. (Copy filed in Minute Book). Mr. Jarrett also asked that the word "fluorine" be changed to "Fluoride" in the previous regulations in order to correct a typographical error. This was granted.

Mr. Jarrett gave a report of the work of the State Stream Sanitation Commission which was appointed by the Governor, stating that drinking, industrial and recreational water supplies are being seriously menaced in North Carolina by our streams becoming more and more polluted with human and industrial wastes. He pointed out that better stream sanitation would contribute to the health of the people and raise the standard of living conditions; that it was most important from the standpoint of health and recreation, and necessary to interest new industries coming into the State. He stressed the importance and necessity of assuring safety and cleanliness of our water supplies. The State Board of Health was asked to support stream sanitation legislation which will be presented to the 1951 General Assembly.

The State Board of Health reconvened at 1:30 p.m., Thursday, February 2, 1950, in the auditorium of the Laboratory of Hygiene.

Mr. Jarrett presented a petition for notice of public hearing for the extension of the boundaries of the Catawba Heights Sanitary District in Gaston County. Dr. Bender moved that the Board approve the resolution naming the time and place of a public hearing concerning the extension of the boundaries of the Catawba Heights Sanitary District in Gaston County, North Carolina. Motion seconded by Mr. Jackson, and carried. (Copy of Resolution filed in Minute Book).

Mr. Jarrett read a request for the issuance of an Order for the Town of Brevard, North Carolina, to improve sewage disposal facilities. He stated that investigation had been made by the division and that the Order was desired locally to assist in getting funds for the work. On motion of Mr. Jackson, seconded by Dr. Large, the Order to the Town of Brevard to proceed to construct and put into operation an adequate system of sanitary sewers and necessary sewage treatment plants, was unanimously carried. (Copy of Order filed in Minute Book).

Mr. Jarrett presented and discussed a resolution relating to the public watershed used by the City of Asheville, North Carolina. He pointed out that the Blue Ridge Parkway, a part of which lies on the Asheville watershed, would be opened for public use about July 1, 1950, and the National Park Service and the City of Asheville recognize their responsibility in the protection of the public water supply and watershed from pollution. On motion of Mrs. Hunt, seconded by Dr. Large, the resolution relating to the public watershed used by Asheville, was adopted—contingent upon approval of the Attorney General. Motion carried. (Copy of Resolution filed in Minute Book).

Following the meeting this matter was presented to Mr. Ralph Moody, Assistant Attorney General, for an opinion. His opinion, dated February 14, 1950, which is in the files of the State Board of Health, states that "the proposed amendment or exception to Chapter 3 of the rules and regulations would be proper, legal and valid." This opinion verifies the action of the Board.

Mr. Jarrett discussed health certificate requirements for foodhandlers, and stated that some of the local health officers desired to change regu-

lations since they felt that too much time was being consumed in making such examinations. They preferred to substitute chest X-rays and physical inspection in lieu of detailed examinations. The wording of the health certificate requirements, as contained in present regulations, is written differently for several of the regulations. Mr. Jarrett's proposal was to clarify this, so that all items would be the same. After much discussion, Dr. Lawrence moved that "The State Board of Health hereby authorizes the State Health Officer to modify in whole, or in part, the present requirements of the sanitary regulations, as they apply to health certificates, when requested by the local Health Board and local Health Officer—contingent upon ruling of the Attorney General." Motion seconded by Dr. Large, and carried.

The above matter was presented to Mr. Ralph Moody, Assistant Attorney General, for his opinion. He advised on March 23, 1950—a copy of which is in the files of the State Board of Health—that the Board did have the legal authority to modify the present requirement of sanitation regulations as they apply to health certificates.

Mr. Jarrett brought to the attention of the Board a new type of milk dispenser for hospitals and public eating places, but no action was taken,—the matter being deferred to a later date.

Secretary Norton brought to the attention of the Board a communication from Mr. Russell M. Grumman, Chairman of the N. C. Family Life Council. The subject was discussed briefly. Dr. Haywood moved that since the Board so recently had joined the N. C. Health Council it defer action on affiliation with the N. C. Family Life Council. Motion seconded by Mr. Jackson, and carried unanimously.

Secretary Norton called attention of the Board to an article in the AMA Journal of December 31, 1949, re: "State Society (Massachusetts) Sponsors Health Protection Clinics." Also he reported on the combined Diabetes and Chest X-ray Clinic now being held in Harnett County, and discussed the present trend toward examining for several diseases rather than for just one in detection clinics. No action required.

Dr. C. P. Stevick, Director of the Division of Epidemiology, presented and discussed a revision in the communicable disease regulations relating to scarlet fever. He recommended that the regulation be revised due to the fact that treatment of scarlet fever patients and contacts with penicillin and certain other drugs reduces the length of time of infectiousness. Dr. Large moved that Regulation 45 of the State Board of Health Communicable Disease Regulations be revised and adopted as follows:—

"REVISION OF COMMUNICABLE DISEASE REGULATION 45 RELATING TO SCARLET FEVER

"WHEREAS, the present regulation governing scarlet fever requires that patients be isolated at least fourteen days after onset and that contacts be quarantined for seven days after exposure, and

"WHEREAS, the treatment of scarlet fever patients and contacts with penicillin and other new drugs reduce the length of time they are infectious,

"Regulation 45 of the State Board of Health Communicable Disease Regulations is hereby revised as follows:

"1. By adding the following paragraph to Section H: "Contacts receiving prophylactic treatment by an effective agent may be released from quarantine by the local health officer."

"2. By adding to Section I: " . . . , provided that isolation may be discontinued by the local health officer after adequate treatment with an effective agent and all symptoms have terminated."

Motion seconded by Mrs. Hunt, and carried.

Dr. John H. Hamilton, Director of the Laboratory of Hygiene, described to the Board a new specimen container that has been provided by the Laboratory for the medical profession, and the procedure which in the future will render very definite help in the diagnosis of amoebic dysentery.

The Amebiasis Kit depends largely on the use of polyvinyl alcohol as a fixative for trophozoites, and consists of a vial of polyvinyl alcohol fixative, a microslide, an empty vial and a tube of culture media. In practice the culture media will be inoculated first, then an emulsion of feces will be made in the vial containing polyvinyl alcohol and some of this emulsion smeared on the microslide. All these will help identify the Trophozoite stage of amoeba. A vial of untreated feces will make possible an examination for the presence of cysts by the zinc floatation method.

Secretary Norton discussed a proposed bill to be presented to the next Legislature, by a committee from the State Medical Society, of which Dr. Wiley Forbus of Duke is Chairman, relative to the modernization of the coroner system of the State. This amendment would relieve the coroner of signing death certificates, simplify other procedures, etc. A Commission has been proposed to administer the work composed of the Attorney General, a representative of the Bar Association, a representative of the State Medical Society and three pathologists selected by the heads of the three Medical Schools. Dr. Large moved that Secretary Norton be proposed for membership on this committee. Motion seconded by Dr. Lawrence, and carried unanimously.

Dr. C. C. Applewhite, Director of Local Health Administration, distributed data on full-time county, district and city health services for the fiscal year 1949-'50, and also a plan for additional allocation of State and Federal funds for distribution to local health departments. Dr. Large moved that the allocation be made as outlined in attached memorandum. Motion seconded by Mrs. Hunt, and carried.

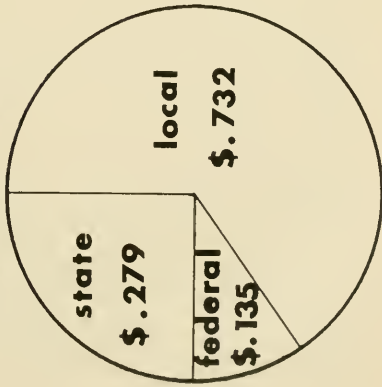
May 3, 1950. The annual meeting of the North Carolina State Board of Health was held, as required by law, on the second day of the annual

COST FOR LOCAL HEALTH SERVICE

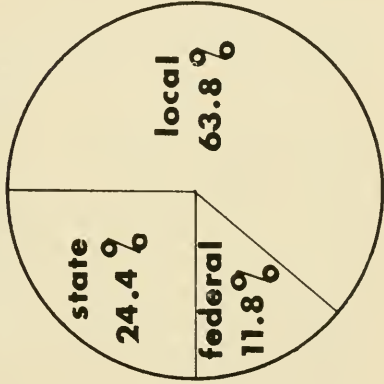
North Carolina Fiscal Year 1950 - 51

TOTAL STATE FUNDS	1,132,000
TOTAL FEDERAL FUNDS	547,344
TOTAL LOCAL FUNDS	2,964,175.25
TOTAL BUDGET LOCAL HEALTH	4,643,519.25

Cost per Capita



Source of Funds



Cost per Capita All Funds



meeting of the Medical Society of the State of North Carolina, at the Carolina Hotel, Pinehurst, N. C., Wednesday, May 3, 1950, at 9:00 a.m., with President Dixon presiding.

Secretary Norton read the minutes of the regular meeting held on February 2, 1950, which were approved as read.

The Secretary made a brief progress report relative to the N. C. Optometric Society. He stated that Dr. Stevick and he attended the Committee meeting of ophthalmologists and optometrists, held recently in Charlotte, and reported frank discussions on the part of both groups. He said that he felt that considerable progress was made, from the standpoint of understanding, friendliness and willingness to work together; that several problems were resolved, and that future meetings would be held, from time to time. Dr. John R. Bender moved that, whereas the Ophthalmologists and Optometrists Committee has conducted such successful consultations up to this time and done such a fine job—but has not completed this work—that the State Board of Health respectfully request the new President of the State Medical Society to look with favor upon the appointment of this same committee for another year. Motion seconded by Dr. Ward and carried unanimously.

Secretary Norton made a progress report on the new Health Building, reviewing and outlining to the Board various proposed sites that had been considered and found undesirable, especially pointing out the Old Soldiers' Home site on New Bern Avenue as an example. Dr. Norton said morale, good working conditions, and happiness of those doing the job was a great asset to the work, and that the staff preferred not to go out to this location. Too, our present location, he pointed out, is only a short distance from the State Capitol and a number of other State offices, which is of great convenience for conferences, meetings, etc., during legislative sessions, when personnel can be present for meetings and consultations, on a few moments' notice. The Secretary also pointed out the fact that moving to another location would divide the personnel, leaving the Divisions of Laboratory of Hygiene and Oral Hygiene on the Caswell Square property indefinitely, which would work a great disadvantage, as it is important to be close together in order to work together. A blue print of the present Health Building and of Caswell Square was presented, and it was explained how it might be possible to take the extension of the present building and erect a new building between the present building and the Armory Building, as an extension to the rear, with a view to demolishing the old building and erecting a suitable front extension in the future. After discussions, Dr. Current moved that the Board of Health request the Board of Public Buildings and Grounds for permission to build a wing of the new Health Building using the \$600,000 as an extension to the old Health Building, with the idea that eventually the old building will be replaced with a new front. Motion seconded by Dr. Ward, and carried unanimously.

Secretary Norton recommended that no action be taken at this time relative to the North Carolina Family Life Council.

Mr. E. C. Hubbard of the Sanitary Engineering Division presented a resolution for final action, extending the limits of the Sanitary District at Catawba Heights in Gaston County. Mr. Hubbard stated that all of the required steps thus far taken pertaining to the extension of the boundaries of Catawba Heights Sanitary District have been in accordance with the requirements of Chapter 100, Public Laws of 1927, as amended, and that the Division of Sanitary Engineering recommended the resolution. On motion of Mr. Jasper C. Jackson, seconded by Dr. Hubert B. Haywood, the "RESOLUTION OF THE STATE BOARD OF HEALTH OF THE STATE OF NORTH CAROLINA EXTENDING THE BOUNDARIES OF THE CATAWBA HEIGHTS SANITARY DISTRICT IN GASTON COUNTY, NORTH CAROLINA," was carried unanimously. (Copy filed in Minute Book).

Dr. G. M. Cooper, Director of Personal Health Division, presented some regulations requesting that all files on individual cases of maternal, child health and crippled children's programs be held as confidential information. This procedure follows a requirement of the Children's Bureau and is to be incorporated in the Annual Plan. On motion of Dr. Bender, seconded by Dr. Haywood, the regulations regarding confidential information as relates to maternal, child health and crippled children's programs, were adopted. (Copy of resolutions filed in Minute Book).

Secretary Norton reviewed, and gave a brief and concise progress report on the conferences and activities of the cancer control program as it relates to the Cancer Committee of the State Medical Society, State Board of Health, local County Medical Societies, Directors of the Cancer Centers and the State Division of the American Cancer Society. He complemented the fine work done by the late Dr. T. Leslie Lee, and of Dr. I. M. Procter's excellent leadership in developing a very fine program. In an informal talk he advised the Board members that an agreement had been reached whereby all apparent causes of friction had been removed, and in referring to the recommendations of the Cancer Committee relative to the Cancer Detection and Diagnostic-Management Centers, Dr. Norton recommended that the general policies be followed but that the Board leave it to the local County Medical Societies and the Directors of the Cancer Clinics to make minor alterations, but that these changes should be brought before the State Board of Health, Directors of the Cancer Clinics and the Cancer Committee before adoption in any form. On motion of Dr. Haywood, seconded by Dr. Ward, the above recommendation was adopted. (Copy of agreement filed in Minute Book).

MAY 17, 1950. On Wednesday, May 17, 1950, a special committee composed of the Executive Committee of the State Board of Health—Doctors G. G. Dixon, Hubert B. Haywood and H. Lee Large, and three members of the Council of State appointed by the Governor, namely, Mr. Harry McMullan, Attorney General; Mr. Brandon Hodges, Treasurer; Mr. D. S. Coltrane, Assistant Director of the Budget, with Mr. George B. Cherry, Superintendent of Buildings and Grounds; Mr. E. G. Thurlow, State College; Mr. Frank Turner, State Engineer, and Mr. Wm. H. Deitrick, Architect, as consultants,—to make a recommendation with

regard to the use of the \$600,000 appropriated by the 1949 General Assembly for a new State Board of Health Building. The following recommendation was agreed upon.

"It is the unanimous opinion of this committee that the \$600,000 appropriation is inadequate to construct the necessary building and acquire a suitable site; therefore, the committee recommends that the \$600,000 be NOT used at the present time and that the coming Legislature be requested to either: (1) authorize the demolition of the present State Board of Health Building and the use of the \$600,000 plus necessary additional funds to cover the cost of demolition and the erection of an adequate building, or (2) acquire a new site, it being suggested that the new site be a sufficient parcel of land of approximately 8 or 10 acres, of State-owned land immediately adjacent to the Meredith College property on the North side of Highway #1, with adequate appropriation to construct the Administrative Building and to reconstruct a suitable Laboratory of Hygiene and Oral Hygiene Building as a unit.

"This alternate recommendation anticipates turning back to the use of the State the present Health Department administration building, the present State Laboratory of Hygiene and the present building used for Oral Hygiene and also the quarters now occupied by the State Board of Health in the Armory Building. The Committee points out that by including the State Laboratory in the construction of a new health center Federal aid could probably be anticipated."

ANNUAL REPORT
NORTH CAROLINA STATE BOARD OF HEALTH
to
CONJOINT SESSION STATE MEDICAL SOCIETY

J. W. R. NORTON, M.D.
Secretary and State Health Officer

PINEHURST, NORTH CAROLINA

May 11, 1949

The period covered in reports following this foreword—that is, the calendar year of 1948—was not without its discouraging features, even though, as a whole, progress was noted. In mid-year of 1948, North Carolina was visited by the most widespread epidemic of poliomyelitis in its history, and one of the worst ever recorded in the United States. During this epidemic, there were 2,517 cases reported to the State Board of Health and 147 deaths. This situation naturally delayed or otherwise interfered with other Public Health services. However, the crisis was handled as well as could have been expected, with a minimum of confusion and misdirected effort.

Personnel shortage continued to prove a deterring factor, with Public Health unable to obtain adequate professional help at the salaries allowed for such work. The gratitude of the State Health Department is expressed to those who remained at their posts, in the face of sometimes flattering offers to enter other fields of service. This spirit demonstrated their devotion to duty and those who remained are to be commended.

Throughout the year, the future was considered in the light of a keen desire on the part of those charged with the administration of Public Health in North Carolina to secure such financial assistance to improve the work in the various local health units. Budgetary requests for the biennium beginning July 1, 1949, were drawn up with this objective in view, and in the next conjoint report to the State Medical Society, the Board of Health will be able to report officially that \$1,600,000 in new money was made available for improving the work in local health units, for the biennium above referred to, as well as \$600,000 for a new building for the State Board of Health in Raleigh, designed to meet present and future needs. We will also be able to report that every one of North Carolina's 100 counties was organized for full time Public Health Service, as of July 1, this year, as well as the establishment of a well-planned Field Health Training Program for public health workers.

This foreword, written for customary publication in *The Health Bulletin*, is designed to focus attention upon the reports from the various Divisions comprising the State Health Department, submitted to the conjoint session in Pinchurst, in May. These reports are given every summer, to the readers of *The Bulletin*.

It might be well, however, to point out some of the things not covered in these Divisional reports, including some of the activities of the Division of Central Administration, of which the Secretary and State Health Officer is the Director, and directly under whose supervision certain important services are performed. Among the other members of this Division is the budget officer, whose work is indispensable in the conduct of the Department's financial and fiscal affairs. This official has charge of placing of orders for the various Divisions, as well as payroll duties. With the intricacies of the present day, such as payroll deductions, etc., the budget officer's work was greatly increased.

The Personnel Officer also works in the Central Administration. This work has expanded during recent times and includes the keeping of accurate records on each employee—State and local assistance in recruitment, promotions, etc.

Also included in the Central Administration is the work of the Senior Publicity Specialist, who writes the Department's news items and conducts a weekly radio broadcast over Station WPTF, known as "Your Health and You." Although this official is a layman, he works under medical supervision and confines his activities to describing the services made available by the State Health Department including immunization programs, etc. Each year he reports the proceedings of the State Medical Society, through the papers and press services.

Included in the work of the Central Administration is the filing system for correspondence and other official papers of the entire Health Department. Frequent reference must be made to previous correspondence and reports. This work alone keeps two persons employed full time.

The purpose of making the State Board of Health's reports public, through annual publication in *The Health Bulletin*, is to acquaint readers with just what their Health Department is doing for them, in affording mass protection and performing the various other functions for which the Department was established and is being maintained. There are around 60,000 names on *The Bulletin's* mailing list. It is assumed that each copy is read by more persons than the one whose name appears on the label. In some instances, large families read single copies of this publication, which the State Board of Health has been issuing since April, 1886. It is published monthly, and is free to all citizens requesting it. Please report any changes of address so that no copies will be missed.

More and more, emphasis is being placed on improving the work of the local health units. It is necessary to have a central unit, through which legislative appropriations are channeled, as well as Federal moneys made available for Public Health work, and certain work must be performed centrally such as vital statistics and laboratory services, but it must always be kept in mind that where the work actually is done is out where the people are and not around desks or in conference rooms in Raleigh. While planning is necessary, and while it is necessary to employ division heads, clerks and others, the individuals who receive public health services are to be kept uppermost in our minds.

As in the matter of vital statistics, for example—and epidemiology—it is necessary to maintain a clearing house at Raleigh, to which reports of births and deaths and the incidence of certain diseases are made. Here they are compiled and put to such uses as are necessary. Statistics are important, but when simply taken as so many figures, they lose their real importance, which is to teach lessons. For example, reports are made each month of the incidence and deaths from preventable diseases. This information is necessary, if we are to wage a successful fight against such diseases. In this connection, it might be said that the 1949 Legislature took an important step when it made cancer a reportable disease. We must know where cancer exists before we can wage a successful fight on it. The forward step above referred to was designed to aid in the prosecution of the Board of Health's cancer case-finding program now in progress and about which much already has appeared in the press and been heard over the radio. And so, statistics do have a very definite place in any preventive or correctional program—when properly interpreted and put to use. Without them, we would not be able to make many of the valuable calculations necessary to any program of progress.

During the period covered by the reports to follow, an intensive effort was made to bring about a closer relationship between the State Health Department in Raleigh and the local health units, through a series of conferences, in which views were exchanged and suggestions made. This movement for closing any gaps of misunderstanding between local and State health officials, plus an intensive program for improving local health facilities, already has borne fruit. This was conspicuously evident during the last session of the General Assembly, when a large majority of our local health officers were so zealous in behalf of the needs of their people, from a public Health standpoint, that they led in stimulating public health interest among their public spirited citizens who inspired their legislators to do the same thing. The net result was that there was a growing consciousness on the part of our representatives in the General Assembly, that the people not only were becoming more health conscious, but had begun to put Public Health in its proper relationship to other progressive movements.

Cooperation is necessary to the prosecution of any worthwhile program, but, to be cooperative, the group appealed to or in whose behalf the program is being carried out, must be informed. Otherwise, they could not reasonably be expected to respond. That is why, for example, the State Board of Health's tuberculosis case-finding program, in which much progress was made during the period of these reports, has been publicized in all sections of the State. The objective of this movement is to secure a chest X-ray picture of every person in North Carolina over 14 years of age. If this is to be accomplished, the public must be informed of the advantages of such procedure. The people must be made to understand that if we are to successfully fight tuberculosis, we must find those in whom the disease exists, in order that they may, if the disease is detected early enough, be treated and cured, or, if they are a menace to others, they must be separated from those they are likely to infect through continued contact. References to this and other Public

Health programs, concerning which full accounts are given in the reports this foreword is intended to introduce, are not made for the purpose of repetition, but for the sake of emphasis.

Reference has been made to the importance of cooperation, which induces the statement that the State Board of Health has continued its cooperation with other State and governmental departments and agencies, in helping to promote the health and welfare of the people. Public Health is closely associated with and owes a definite obligation to any movement designed to make this a better world in which to live. In its participation in the program for better nutrition, the State Board of Health has been able to maintain a working relationship with various other agencies; in its Industrial Hygiene Program, it has been able to work in cooperation with the State Industrial Commission and the Department of Labor, and in its work in behalf of school health, it has been able to maintain a working relationship with the State Department of Public Instruction, and so on. Numerous other examples might be given, but these are sufficient to show that the State Health Department not only preaches but actually practices cooperation. The surest way to fight foes from without is to maintain solidarity within. We must be healthy at home, if we would promote health abroad.

Public Health activities in North Carolina did not reach their present proportions overnight. Nor has the forward march been free of obstacles. It is a far cry from now back to the seventies, when Dr. Fanning Wood, of Wilmington, caught the vision which later was translated into action that brought the State Board of Health into being. It may interest the readers of this foreword to know that when the Board was created by the Legislature of 1877 it consisted of the Medical Society of the State of North Carolina, in its entirety, and the sum of \$100 was voted as the first annual appropriation. The first piece of Public Health literature of which we have any record was printed in 1878, and its title was, "Timely Aid for the Drowned and Suffocated." The Board was later reconstituted and, from time to time, subsequent changes were made, but for many years progress was slow and the subjects coming within the range of Public Health's jurisdiction were very limited.

With the discovery of means of preventing and controlling certain diseases, including typhoid fever, diphtheria, and others, the activities of the State Board of Health became more important, because, with the establishment of the State Laboratory of Hygiene, in 1908, the State, through this agency, began to prepare immunizing agents for distribution among the people, under medical supervision, of course. No drug, serum or other agent affecting the human body should be distributed except through the medical profession. Any other course would be as dangerous as shortsighted.

The year 1940 constituted a significant milestone in the progress of the State Laboratory of Hygiene, which now makes such valuable contributions to the war on preventable diseases which formerly took such a tremendous toll of our people. That year saw the completion and dedication of the new central building, on Caswell Square, adjacent to

the present State Board of Health building. Considerably more than \$300,000 is represented in this and the laboratory farm, west of the city. It is estimated that this Division of the Health Department saves the taxpayers of North Carolina more than \$2,000,000 a year, in the services it renders.

Without any one of the various divisions and bureaus comprising it, the State Board of Health would not be rendering the service to the people of the State it is rendering today; and without any one of the local health units, the Public Health picture in North Carolina would be incomplete. It is, therefore, necessary that North Carolinians be kept informed about what this governmental agency is undertaking and accomplishing in their behalf. No branch of government affects all the people more vitally than their Department of Public Health, in which there now appears to be an increasing interest on the part of the citizenry. This was demonstrated, to a degree, during the polio epidemic of last year. Although daily reports were issued from the office of the Director of the Division of Epidemiology, on the number of cases diagnosed, Radio Station WPTF requested that the staff member who makes the weekly broadcasts known as "Your Health and You" appear on the 6:45 P.M. newscast daily, and, in his own words, give the public a verbal report. The radio station director insisted that this procedure, with a daily warning against hysteria, would have a tendency to keep the people calm, in the midst of a serious situation.

In looking over the record of our State Health Department, not only for last year, but for the years that have come and gone since its establishment, we find many things to inspire justifiable pride. We have, in the main, made progress; we have also missed many opportunities, perhaps. But whatever may have been the experiences of the past, we undoubtedly, are entering into a period that will be filled with greater responsibilities, which we should be prepared to meet, if we are to achieve the objectives for which the Board of Health was created.

The decline in preventable diseases and consequent deaths has been synonymous with the activities of Public Health, but to that force alone we cannot and will not undertake to give all the credit. This credit must be shared with those who have been and are now engaged in private practice. After all, the State Board of Health is a child of organized medicine, and whatever credit we have earned must be shared with the Board's creators; namely, the physicians of North Carolina. There are hardly any, living now who were active when the Board was established, but the private practitioners of today are the successors of those pioneers of yesterday, who not only laid the ground work for and actually founded the State Board of Health, but who, also, pioneered in many other projects and movements which later came to full fruition. The value of the investment made toward better health in North Carolina by private practitioners and public health workers cannot be over-estimated.

While we have accomplished much, in both curative and preventive medicine, we are still faced with a gigantic challenge, in combatting what we know as the degenerative diseases of middle and late life. We have

given our children protection against diseases which formerly killed thousands each year; we have increased the span of human life, thereby. Medical science has all but eradicated many of the diseases which formerly took a heavy toll among our adult population, through immunization and other forms of preventive medicine. But there still remains a group of deadly maladies to challenge us, and, so far, the high score is on their side. When four diseases alone—heart disease, apoplexy, cancer and nephritis—are responsible for more than half the deaths that occur among us, from all causes, it is time for us to pause and consider what we can do about it. And we are beginning to do just that. North Carolina has established what we hope will be a successful campaign for the detection, treatment and cure of early cancer. We are in sympathy with the movement now in progress to do something to bring down the terrific death toll from heart disease. We propose to enter not only into the spirit of these fights, but into all battles designed to reduce disease and death. And in this we shall join hearts and hands with the private practitioners of medicine—without duplication of effort, and altogether in a spirit of cooperation.

In short, we believe that all movements designed to relieve human suffering and prolong life should have the support of all those agencies that are dedicated to human welfare, whether secular or religious, political or commercial. It would not involve the question of the separation of Church and State to express the hope that religious organizations will continue and increase their support of Public Health. Some of the finest hospitals in America are owned and operated by various religious denominations, Protestant, Catholic and Jewish. These institutions are as much concerned about the health of our people as our purely secular hospitals, and it is to be devoutly hoped that each of these will continue to prosper and continue its ministrations to the sick and needy. We are living in a world and in an age where human sympathy and human kindness constitute two of our greatest needs. Let us, then, go forward with this in mind.

The reports that follow are, in some instances, technical; but, studied for what they really mean, they can be translated and understood by all who are interested in Public Health.

Respectfully submitted,

J. W. R. NORTON, M.D.

Secretary and State Health Officer

(For synopsis of departmental reports see THE HEALTH BULLETIN, issue of June-July, 1949).

1950 CONJOINT SESSION—A MID-CENTURY REVIEW

By

J. W. R. NORTON, M.D.

Secretary and State Health Officer

PINEHURST, NORTH CAROLINA

May 3, 1950

The State Board of Health is a child of the State Medical Society in North Carolina. From its birth in 1877 the Society has nurtured and guided this child which has a reasonable record of obedience, respectfulness and of growing up to do its share in the increasingly important job of combatting disease and injury and promoting health in our State. So, at this Conjoint Session each year it is not only legally required but morally fitting and ethically appropriate that the parent should be kept advised as to the progress of the child. The same relationship has existed between our local health departments and their respective county medical societies, beginning with Guilford in 1911. We take pride in this fine relationship through several generations between organized medicine in North Carolina and the State Board of Health and local health departments. As our respective jobs become more complicated and difficult in preventive and curative medicine and as the public obtains better pay, food, clothing, housing, and medical care and passes through the stage of a "little learning" with regard to some of these and becomes more critical there is need—a necessity—for an ever-increasing spirit of cooperation among those in medical and allied fields. The remnants of suspicion, distrust and jealousy must be replaced by confident cooperation among all medical and health workers with our only goal the improvement of medical care and health of the individual and public. The fine relationship that exists between public health workers and organized medicine in North Carolina constitutes a vital factor in forestalling socialized medicine. By building deserved confidence on the part of the people—confidence that we in public health will keep them protected from preventable disease and injury and the things that cause them, and confidence that those engaged in private practice are moved by humanitarian motives and will not let them down, we place ourselves in a position where we can hold any semblance of socialism at bay and protect free enterprise in medicine.

As we pause for reflection at the mid-century mark we observe the many gains which, as co-workers in preventive and curative medicine we have made together. In humility, however, we must admit little or no gain against some, such as poliomyelitis, mental diseases and accidents and increasing mortality shifts to the degenerative diseases, such as dis-

Summary of health activities in North Carolina before the Conjoint Session of the State Board of Health and the 96th Annual Session of the State of North Carolina.

eases of the heart and blood vessels, cancer, nephritis, and diabetes. Many factors, however, must guide our plans and work other than mortality statistics since communicable diseases tend to increase promptly if we lower our guard.

Public health workers and private practitioners—taking full advantage of improvements in research, teaching, hospitals, drugs and antibiotics and the cooperation of allied dental, nursing and veterinary professions—have reduced almost to eradication many former leading killers. During the half century life expectancy at birth has been increased almost twenty years. Maternal and infant mortality have been greatly reduced. The physically crippled, blind, deaf and mental cases are receiving vastly improved care. Most public health services are rendered by local health departments and state coverage moved gradually to completion from 1911 to 1949. Our mortality and morbidity statistics are dependable only for the last thirty-five years or less. Since 1916 the following reductions in mortality have been accomplished:—

Pneumonias	50%
Infant	62%
Maternal	74%
Tuberculosis	74%
Whooping Cough	90%
Infantile Diarrheas	90%
Diphtheria	93%
Typhoid	99% (700-6)

In his chronological history of the State Board of Health published in the biennial reports, Dr. G. M. Cooper disposes of 1900 thus:—

"1900. State Board of Agriculture, on request of the State Board of Health, agreed to examine samples of water from public water supplies until Board of Health could provide its own examiner. Annual appropriation for State Board of Health \$2,000."

Increased space has been taken up with this chronological report, from year to year, until several pages are now necessary to give the barest outline of yearly progress.

The State Medical Society officers, the Board of Health, the Governor, legislative and volunteer leaders worked together and the 1949 General Assembly provided additional funds, particularly for cancer control, nutrition, a new \$600,000 Health Building and for strengthening local health departments.

The fourteen divisions which grew up during many years were consolidated and functionally related activities were integrated into six divisions, exclusive of Central Administration, effective February 1, 1950.

The Division of Personal Health, with Dr. G. M. Cooper as Director, contains sections devoted to maternal and child health, crippled children, nutrition, cancer, and heart disease. Definite progress is expected from activities of the prematurity program now well underway. 2,308 prenatal and infant clinics were held during 1949. 11,515 visits were made

to 287 crippled children's clinics, with 1,178 admissions to hospitals. Cancer centers have been set up in Wilmington, Winston-Salem, Asheville, Greensboro, Kinston, Elizabeth City, Sylva, Wilkesboro, Rocky Mount and Durham. Cancers are being found early and a diagnosis in a curable stage is gratifying. Screening tests to find cancer and other diseases early are available to the public; treatment arrangements are based on ability to pay. One of the great needs is for simple dependable multiple screening technics to make case-finding in the field of chronic illness more effective and economical for all concerned. In Harnett County this year concurrent blood sugar and chest X-rays were run satisfactorily. The nutrition service continued to grow in educational activities, in building better bodies and in favor with physicians and laymen alike. Consultation service was provided the Medical Care Commission in developing food service plans for hospitals.

The Local Health Division is directed by Dr. C. C. Applewhite. It has sections devoted to administration, public health nursing, mental health, health education and health of the school age child. More and more emphasis is being placed on strengthening local health departments and for the first time, July 1, 1949, all 100 counties voted appropriations. The 1,076 budgeted full-time positions, when all are filled, will be able to provide relatively minimum services except in the cities, where more nearly adequate services are available. The present fiscal year budget for local health departments shows:—total \$4,372,629, Local \$2,693,246, State \$1,150,000, Federal \$529,383. This local contribution of over 60 per cent is evidence of what taxpayers think of their local health departments. The mental health program is designed to cooperate with the mental hospitals somewhat as we work with the tuberculosis hospitals in case-finding and follow-up particularly through our nurses and health educators. The School Health Coordinating Unit has had the wholehearted cooperation of Dr. Clyde Erwin and the local school superintendents. Broad, flexible policy plans were made by the State providing an opportunity for local adaptations according to need. The Legislature voted \$550,000 to the Board of Education and the Board of Health allocated \$326,211 general health funds for the School Health Program. This increased investment in better health for our 870,000 school children will pay dividends through promotion of better quality in our most valuable crop.

The Division of Epidemiology is directed by Dr. C. P. Stevick, and has sections devoted to public health statistics, acute communicable diseases, venereal diseases, tuberculosis, industrial hygiene and accident prevention. The birth rate declined in 1949 as was to be expected but remained higher than before and during the war. The crude provisional death rate was 8.1 per 1,000 population. This has shown no persistent decline for several years showing that we have reached an equilibrium between declining communicable disease deaths and increasing deaths from degenerative diseases and accidents. A decrease in all major communicable disease problems, including venereal diseases, except gonorrhea, was recorded and malaria and pertussis are establishing a new record low. Rocky Mountain spotted fever, and undulant fever have continued an upward trend for four years. The last Legislature made appropriations

which should wipe out the long waiting lists of our tuberculosis hospitals. Our mass surveys showed 2,417 cases of adult type infection in 257,415 project films from twenty counties. Industrial Hygiene units X-rayed 1,842 employees in dusty trades and engineering surveys of occupational hazards were conducted in 308 plants.

The Division of Sanitary Engineering is directed by Mr. J. M. Jarrett. Services are rendered in environmental sanitation, public eating places, milk, bedding, shellfish, insect and rodent control, and engineering. Work is underway on studies and investigations of industrial wastes under the provisions of the recent Federal Stream Sanitation Law. Under the continued consultation and supervisory services new water and sewage treatment facilities have been initiated at an estimated cost of \$5,000,000. Considerable time was devoted to the promotion of sanitary disposal of garbage and refuse and the 18 sanitary landfills now in operation for such disposal. Much time has been given to special work on projects in cooperation with the Medical Care Commission:—186 plans for new hospitals were reviewed; 349 inspections were made of institutions, a majority of which were hospitals. Concentrated efforts were given to rural sanitation problems and in assisting local health departments, as well as those connected with FHA developments. Training programs for local sanitarians were started and approximately 50 local sanitarians were trained during the year.

The Laboratory of Hygiene Division is directed by Dr. John H. Hamilton, and provides services as follows:—biologics, microscopy, cultures, serology, water, chemistry and approved laboratories. There was an increase in the number of examinations of all types of specimens, except for serological tests for syphilis. The Laboratory now is equipped to perform complement fixation tests on the rickettsial diseases (murine typhus, Rocky Mountain spotted fever, rickettsialpox and "Q" fever) and on the following diseases:—eastern equine encephalomyelitis and lymphocytic choriomeningitis. Chicken red cell agglutination inhibition reactions for the determination of antibodies to influenza will be performed upon blood specimens when both acute and convalescent specimens are submitted. Beginning in July, 1949, a cytology service was added for women examined in the Cancer Clinics and 642 were examined. More children now are protected against diphtheria, tetanus and pertussis than formerly, and the tendency is from use of monovalent antigens to multivalent antigens.

The Division of Oral Hygiene is directed by Dr. Ernest A. Branch, and is devoted to oral health education, consultation, correction and prevention. The Division slogan is "Prevention Through Education." During 1949 the mouths of 76,706 children were inspected and dental corrections were made for 33,916 underprivileged in this group, while the others were referred to their own dentists. The topical application of sodium fluoride is included in the services rendered underprivileged children at the schools and to the others by private dentists in their offices. Dr. Branch reports that, "while we believe there is virtue in this treatment, it should be understood that this is only one of several preventive measures. We

would still put the emphasis on regular visits to the dentist, and adequate diet, low in sugars and starches, and proper and regular brushing of the teeth."

In the Central Administration Division, directed by the State Health Officer, we have public relations, budget, personnel, printing, mailing and central files. For many years now, the State Board of Health has been endeavoring through the press, over the radio, and on the platform, to justify the confidence the people repose in it and in their private physicians, dentists, nurses and hospitals. The local health departments also, with the means of their command, are building up good public relations. We stand ready to carry our share of the load with organized medicine in efforts to maintain and strengthen public understanding of, and confidence in, the medical profession as a means of conquering disease, prolonging human life and promoting happiness. I add happiness because I realize, as you do, that sickness and happiness are incompatible. It is not enough for a worthy cause to "sell itself"; it must justify itself in the eyes of those it serves and prove by demonstration they cannot get along without it. Both curative medicine and preventive medicine are indispensable, and we must continue our cooperative efforts to make the public conscious of this fact. I think the people have good cause to have greater confidence in the medical profession than at any time in our history, and I think they are becoming more health conscious with each passing year, and with the discovery of each new preventive and curative agency.

In making this Conjoint Session Report, I have assumed that after providing copy of the detailed voluminous report you would prefer that I give a few of the highlights of the past year and that we contemplate together some of the vast undercurrents that tend to shape our lives—particularly those that physicians are most competent to guide. We must be ever mindful that the public welcomes medical leadership but will not tolerate dictatorship. Business fluctuates between a buyer's and a seller's market, but the man who pays the bills wants a vote.

Public health in North Carolina, as sponsored and guided by the State Medical Society and with six physicians on the Board of nine, has served all the people and excluded no minority group. Inspections, screenings, referrals, environmental sanitation, health education, laboratory services immunizations have been for the public and not limited to the indigent. We have provided cooperative and supplementary work but we have kept out of the field of private practice. All of us recognize that there are justifiable areas for use of tax funds in medical, hospital and health care and that appropriate services promote good public relations for organized medicine. In addition to controlling communicable diseases, we are directing efforts against maternal and infant mortality and morbidity, against physical crippling, blindness, deafness, mental illness, accidents, and toward a more healthful physical and emotional environment. We cannot ignore the increasing toll of degenerative diseases which now, with mental diseases and accidents, account for far more than half of our deaths. They too require a concerted attack by preventive and curative medicine, working hand-in-hand. Every home in our State stands

under a threat from their ravages. These stubborn and unconquered enemies will eventually yield to our concerted attack as we strive unselfishly to make life better as well as longer in North Carolina. I have complete and unbounded faith in the medical profession in its entirety and in all branches of it and I am sure that we can work out a program in this non-communicable disease field that will be ethical, acceptable, and effective, encroaching upon the prerogatives of none, and that in so doing we shall win the respect, cooperation and gratitude of all good citizens in this State.

This oral report to you has been the merest outline, as it would be impractical to take up so much of your time with the details contained in the more voluminous documents which have been placed at your disposal. I wish it were possible to mention every activity and to commend each one on the central staff and in each local department and each unselfish volunteer citizen who has worked so faithfully and so well. I am grateful to each one. And to you, fellow members of the medical profession, I extend my hearty and sincere thanks for the loyal support you have given to our joint program. Let us all together pledge our best efforts to a constant study of our medical and health problems and to an unselfish pooling of all our resources in our ever-continuing and increasing efforts against disease, injury and death and for the promotion of abundant health.

Respectfully submitted,

J. W. R. NORTON, M. D.,

Secretary and State Health Officer

(For synopsis of departmental reports see THE HEALTH BULLETIN, issue of June, 1950.)

CENTRAL ADMINISTRATION

The reorganization of the State Health Department, effective as of February 1, 1950, changed the set-up of the Division of Central Administration in only one particular, in that it made this Division responsible for activities in the mailing room and for what printing is done by the Department. In addition to this, the Central Administration, which is directed by the Secretary and State Health Officer, is responsible for the maintenance of public relations, for the preparation of budgets, the maintenance of a central filing system, and the personnel office, through which new employees are processed and transfers, promotions, and terminations are effected and training programs arranged.

Although the State Board of Health, in reorganizing the State Health Department, provided for the employment of an Administrative Assistant, the position has not been filled. Throughout the two-year period, demands made on the Secretary and State Health Officer were heavy. Besides performing the routine executive duties necessary in connection with the conduct of his office, he attended professional conventions and conferences, both in and out of North Carolina, and also many committee and board meetings. Out-of-state meetings included annual sessions of the American Public Health Association, State and Territorial Health Officers' Association meetings, and regional Public Health meetings, including that of the Southern Branch of the American Public Health Associations.

Attendance upon the annual meetings of the American Public Health Association and the Southern Branch by the Senior Publicity Specialist was also authorized, in order that he might be conversant with and be able to interpret locally the latest Public Health information over the radio and through the press in North Carolina. Each of these meetings was followed by a broadcast of what happened.

The State Health Officer is called upon to extend consultatory services to many groups, especially to local health departments, and to organizations which include the promotion of health as one of their objectives. During the biennium, the State Health Officer made numerous trips into the field, to observe local health activities, in order that he might not only be kept informed, but to give consultation where it was requested or needed. Numerous visits were made in connection with sanitation and other Public Health activities and for participation in seminars and other gatherings designed to coordinate and clarify Public Health practice and procedure. It is impossible for records to show all the activities of the State Health Officer, as such, and as Director of Central Administration and this applies equally to the work of many of the staff members.

It might be well, however, to report that as the biennium closed, additional responsibilities were placed upon and anticipated by the State

Health Officer, due to the seriousness of the International situation. He was charged by the Governor with responsibility for Public Health participation in North Carolina's defense program.

An important activity of the State Health Officer was his participation in the deliberations of the North Carolina Resource-Use Education Commission. He recommended that the State Board of Health cooperate with the Commission as a participating agency, which called for the appropriation of \$3,000 unexpended funds, with the approval of Governor Scott, as Director of the Budget. One of the objectives of the Resource-Use Education Commission is to publicize the State's natural and human resources, on the screen and over the radio. At this writing, the radio health scripts have been completed and approved by the State Health Officer, who served on the Committee in charge of their preparation.

During the biennium covered in this report, the Senior Publicity Specialist delivered 104 fifteen-minute weekly broadcasts, over Station WPTF in Raleigh, furnished the press with information designed to keep the public informed about the activities of the State Board of Health, and wrote several special magazine and Sunday articles. Many broadcasts and newspaper items had to do with immunization for the prevention of various diseases. Each year, the Publicity Specialist is loaned to the State Medical Society, to handle its annual convention.

The Central filing system has continued to expand. This office has important responsibilities. It receives, classifies, files, and instantly makes available for use copies of all letters and other written transactions from throughout the entire State Health Department. When the new Department building is erected, the Central Files should have added space. It is now necessary to maintain filing cabinets in the halls, as well as inside the office itself.

The Budget Section of the Division of Central Administration is responsible for all funds—making deposits, issuing vouchers, placing orders, and keeping inventory. During the biennium covered by this report, the budget officer placed 3,235 orders and audited detailed monthly budget reports for 75 county and district health departments, with budgets totaling more than four million dollars. In connection with the administration of the State Board of Health Budget, 31,050 vouchers were written, involving funds totaling \$8,819,297. The duties of the Budget Section also call for the rendition of monthly reports to the State government, quarterly reports to the Federal government, and various miscellaneous reports.

During the period covered by this report, personnel activities included thirteen new job specifications and 79 revisions in job specifications, prepared and adopted for use in local health departments and at the State Board of Health. Compensation plans on the State level were revised to provide for the 20% salary increases approved by the State Legislature effective July 1, 1949, and for 12 other revisions in salary ranges. Compensation plans for local health departments were revised on a permissive basis on January 1, 1949, and on a mandatory basis on July 1, 1949, to provide higher salary ranges in the nursing, dental, educator, and nutri-

tionist series. Leave regulations were revised on both State and local levels with the principal change being 15 days' vacation leave instead of 12.

At the State level, 192 appointments were made, of which 70 were in professional classifications. Separations total 178, of which 82 were in professional classifications. Fifty-one reclassifications, the majority of which carried salary increases, and 53 additional salary increases were granted. As of June 30, 1950, there were 339 employees of the State Board of Health and 47 vacant positions.

In local health departments, 351 appointments were made, while there were 330 separations. As of June 30, 1950, there were 1,024 employees in our local health departments and 59 vacant positions.

REPORT OF THE SANITARY ENGINEERING DIVISION

July 1, 1948 - June 30, 1950

It is the responsibility of the Sanitary Engineering Division to coordinate the activities of the sanitation programs of the State Board of Health with those of local health units and to be responsible for the enforcement of State Health Laws and Regulations relative to sanitation.

These activities include all phases of sanitary engineering and sanitation with the exception of industrial hygiene, which is a function of another division. The major activities may be enumerated as follows:

1. Promoting the installation and supervision of public and private water supplies.
2. Safe disposal of sewage and industrial wastes.
3. Sanitation of public lodging and eating places, including tourist camps and summer camps for children.
4. Sanitation of public and private hospitals and institutions.
5. Promotion of safe milk supplies through the adoption by local communities of the Standard Milk Ordinance.
6. Control of malaria and endemic typhus fever through the rat-proofing of buildings, rodent control measures, DDT dusting and spraying.
7. Sanitation of meat markets and meat and poultry processing plants.
8. Assistance with the training of local Sanitarians.
9. The development of standard inspectional procedures.
10. Preparation and distribution of technical and informative bulletins regarding sanitation.
11. The enforcement of all State Laws and Regulations regarding sanitation, including the State Bedding Law.

Administration

The administrative organization of the Division was changed somewhat during the biennium due to the transfer of Malaria Control to this Division from the Division of Epidemiology. This change was brought about because of the reorganization of the State Board of Health. Thus, this Division's activities are now divided into four sections, Engineering, Sanitation, Malaria and Typhus Control, and Secretarial.

The personnel has become much more stabilized and the turnover has been greatly reduced over what it was during the war years and immediately following the war. Following the 1949 Session of the General Assembly, the State Health Officer was successful in getting the Budget Bureau to allow two additional engineering positions and one sanitation position. This has helped greatly and will make it possible for the Division to provide more service and answer more requests for assistance than

has been possible in the past. The 40 persons employed, as of July 1, 1950, and grouped according to the major activities in which they are engaged, are as follows:

1. In the Engineering Section, which is primarily concerned with water, sewage, typhus, and stream sanitation, there are now employed ten Engineers, one Typhus Control Aide, and two Secretaries.

2. In the Sanitation Section, which includes milk, foodhandling, shellfish, bedding, and all other general sanitation activities in connection with assistance to local health departments, there are presently employed 13 Sanitarians, two Engineers, and three Secretaries.

3. In the Malaria Control Section, which is concerned at the present time with Malaria Control Activities only, but which will absorb the Typhus Control Work around January 1, 1951, there are presently employed two Engineers, one Entomologist, one Executive Assistant, two Secretaries, and one laboratory technician. Of these employees on Malaria Control, all are paid directly by the Public Health Service, with the exception of the Entomologist and the Laboratory Technician who are paid by the State.

The Director and the Secretary in charge of the Secretarial Unit are not included in the above.

Legislation

An attempt was made during the Session of the 1949 General Assembly to have a bill enacted which would give authority for control of stream pollution to the Committee appointed in 1945, which is known as the "State Stream Sanitation and Conservation Committee." After much work, this bill failed to pass in the last days of the session. Considerable work was also done in connection with a special Committee appointed to study the milk problem throughout the State. A member of the Staff was a member of this Committee, and submitted, along with some of the other members, a minority report; however, the findings of this Committee were never presented to the General Assembly, therefore, no action was taken with regard to the Committee's findings or recommendations. The Division also worked with the Local Government Commission in connection with the strengthening of the laws relating to financing of sanitary districts. This law was passed but later on we learned that proper procedure had not been followed in the submission of this bill from one house to the other. Consequently, there is a question as to the constitutionality of the changes which were made and this will have to be revised by the next Legislature.

Activities

Primary activities of the Division during the period covered by this report are enumerated according to the sections mentioned above and are as follows:

- I. ENGINEERING—The practice which has been followed for a number of years of assisting with water works and sewage works operators schools or training courses was continued during the biennium. These

courses are held annually at one of the three major universities, the University of North Carolina, Duke University, and N. C. State College, in cooperation with the N. C. Water Works Operators' Association, the Institute of Government, the N. C. Section of the American Water Works Association, and the Sanitary Engineering Division. Certificates are awarded those completing the course and those who have passed an examination, which is given on a voluntary basis by an Examining Board of the Water Works Operators' Association. Since this program began in 1939, 346 certificates have been issued.

The assistance given to consulting engineers and municipal and State officials has continued to increase. Requests for this assistance are mainly with regard to water and sewage problems, review and approval of plans for new construction or renovations, location of well sites, location of hospital sites for the Medical Care Commission, and assistance in connection with operational problems encountered in municipal water and sewage treatment plants. Since we have now received authorization to employ two additional Junior Engineers, it is planned to place two Engineers in each of three districts, which will give us six full time field men on these problems. Heretofore, we have had only three District Engineers and it has been impossible for them to render the type of service requested by municipalities and local health departments. During the past two years 120 persons have been reviewed and approved for water and sewerage developments. Much of the water and sewerage work, which had been held up because of the shortage of materials and need for additional planning, has gone ahead during this biennium. During the biennium, 62 major sewerage system improvements, including extensions and construction of new plants, were either begun or completed. Of these 62 major projects, 30 new plants have been constructed or are now under construction. We now have a total of 319 public sewerage systems in the State.

The same degree of progress was shown in connection with the improvement of municipal and industrial water supplies. There were 79 major projects begun, partially completed, or completed during the biennium. These consisted of new wells with additional equipment, new sources of supply, extensions to existing purification plants, and the construction of new water treatment plants in connection with new sources of supply. Of these 79 projects, 25 were new plants or supplies. This gives us a total of 357 public water supplies in the State as of this date.

We do not have exact cost figures on improvements which have been brought about during the biennium, but it has been conservatively estimated by this office that the sewerage work alone has amounted to more than ten million dollars. It is safe to say that approximately the same amount was spent in the development of new sources of water supply, construction of new plants, and extensions to existing systems. In addition to the major municipal water supply and sewage treatment work, this office also supplied plans for school sewage plants in connection with the new school building program. During the biennium, 120 sets of plans for sewage treatment plants for consolidated schools were issued by this office to architects, engineers, and county officials. In all of these cases

inspections were made, prior to issuing the plans, by Engineers of this office to determine the type of treatment and size of plant necessary. There were also 124 sets of plans issued for other installations, such as, camps, swimming pools, country clubs, industrial plants, etc. This makes a total of 244 sets of stock or suggested plans distributed by this office for water works and sewerage improvements.

In the fall of 1949, funds became available from the U. S. Public Health Service, through the Water Pollution Control Act, known as Federal Law 845, for assistance to the State Board of Health in connection with the study of industrial wastes. Three Engineers are now employed on this activity and specific studies of industrial wastes are being made in cooperation with industry and municipalities. Through the cooperation of the State Laboratory of Hygiene, a Sewage and Industrial Wastes Laboratory has been established where samples from industrial plants may be analyzed. This work is in addition to that being done by the State Stream Sanitation and Conservation Committee with which we are cooperating. That Committee has technical men at work and, during the past two years, in addition to a number of special studies and surveys, have made specific studies of the Yadkin and Catawba Rivers.

As usual, complete surveys and inspections were made of all interstate carrier watering points and water supplies in cooperation with the U. S. Public Health Service.

Assistance is being rendered to other types of industries, such as, abattoirs, rendering plants, frozen locker plants, poultry processing plants, etc., in connection with disposal of their wastes. The cooperative project between the State Department of Conservation and Development, and the U. S. Geological Survey, and the State Board of Health has continued during the two year period and chemical examinations have been made of all municipal and other water supplies.

Much time has been devoted to special requests and advice in connection with the design of swimming pools, although we have no specific laws or regulations governing the design or sanitation of swimming pools.

Both the Engineers and Sanitarians have devoted considerable time to site inspections and other problems in connection with the Medical Care Commission's Program of hospital construction.

Typhus Control work has continued during the past two years at about the same rate as previously reported. Considerable emphasis has also been placed on the promotion of sanitary landfills as a method of disposing of garbage and refuse. We now have 18 sanitary landfills in operation in the State, most of which have been constructed during the past two years.

The usual amount of special engineering assistance was given to State Institutions, the Budget Bureau, and other State Agencies in connection with special water or sewerage problems at institutions or other units under the supervision of these agencies.

II. SANITATION—As previously reported, all sanitation activities have been combined under the supervision of a Sanitary Engineer. This was done during the previous biennium and has now been given an opportunity of proving itself. During the past biennium the Bedding Inspection work was also added to the Sanitation Unit.

Milk Sanitation continued to receive a considerable amount of attention from the personnel of this office. This is brought about by special requests from local health departments for assistance in connection with the design and approval of plans for dairies and particularly pasteurization plants. During this period, 24 milk plant plans were reviewed and 59 dairy plans furnished prospective builders. Plans now underway will also provide pasteurized milk in individual containers for all institutions under the Hospitals Board of Control. Also, a number of problems in connection with the inter-county exchange of milk have been given attention, and efforts have been put forth to standardize the milk inspection work and interpretation of the Standard Milk Ordinance and Code on a uniform basis throughout the State. As previously mentioned, the Committee Report in connection with milk sanitation work was not presented to the General Assembly, and, therefore, no action was taken. A special training class on milk for selected Sanitarians was held at N. C. State College in cooperation with the field training unit of the University of North Carolina School of Public Health. This training course proved very beneficial to all those who attended, and it is planned to make this an annual event as one of the topical short courses in the program of the field training center at Chapel Hill. During the past two years 71 surveys have been made of the milk sheds in this State.

During the past two years, in cooperation with the Field Training Unit of the School of Public Health and Kellogg Foundation, emphasis has been placed on the training of Sanitarians. Six local health departments were selected as field training centers and courses lasting eight weeks were given 54 Sanitarians. Four courses have been held.

In connection with these training courses, time has also been devoted to working on Merit System Classifications to improve the quality of men being recruited and trained for Sanitation positions. Higher educational requirements have been adopted and work is now progressing on compensation schedules that will enable us to attract and hold the type of man we need as Sanitarian.

The program of assisting operators of foodhandling places, institutions, and hospitals has continued and is proving most valuable. It is estimated that during the past two years approximately 72 foodhandlers' training courses have been given with a total attendance of around 25,000 persons. Since these courses are given in three sections, this means that approximately 8 or 9 thousand individuals attended the 72 courses. They have been given in all types of foodhandling places and in a number of our State Institutions, including the Tuberculosis Sanatorium.

During the biennium, special attention has been given to hospital inspections as part of our program of cooperation with the Medical Care Commission and with the local health departments. The local health de-

partments had hesitated to make these inspections themselves, possibly because of medical politics or for other local reasons. Consequently, representatives of this office, together with local Sanitarians, inspected practically every hospital in the State during this two year period. Copies of these reports have been submitted to the Medical Care Commission, as well as to the managers of hospitals and to local health officers. As a general thing the sanitation of these hospitals was found to be considerably lower than would have been expected of such places. However, the cooperation on the part of management has been excellent once the sanitary defects were pointed out; and, it is believed that the improvements, which are being made and which will be made in the private and public hospitals throughout the State, will be of considerable magnitude and will provide much better sanitation facilities than have previously been available.

The Shellfish Sanitation Program in cooperation with the U. S. Public Health Service and the State Department of Conservation and Development progressed nicely during the biennium. In 1949, North Carolina's program was rated Number 1 in the nation by the U. S. Public Health Service. In 1950, we were listed as being in the top third; no individual ratings have been sent to us. Laboratory facilities have now been established in cooperation with the Carteret County Health Department; this should provide a necessary and important adjunct to our control program, since we will now be able to check bacteriologically the quality of shellfish being distributed.

III. MALARIA CONTROL—Although Malaria Control was not transferred to the Sanitary Engineering Division until March 1, 1950, the report of the activities of this unit for the past two years is included in this report. During the biennium, the DDT residual spraying program continued to be the principal malaria control activity. A total of 148,893 premises were treated in areas previously regarded as malarious. The accomplishments of this program have been very gratifying. In 1945, the year the DDT residual spraying was started in North Carolina, there were 24 deaths from malaria. The average number of deaths from this disease for the preceding five years was slightly above 26 per year. In 1948, for the first time in the history of vital statistics in North Carolina, no deaths from malaria were reported in North Carolina and only two were reported in 1949. Much time was given by the Engineers and others in the Malaria Control Section to pond construction and inspection. This is getting to be a considerable activity in this state. This large scale construction of ponds may in the future result in the return of malaria as a public health problem unless proper control operations are continued. During the biennium, the State Board of Health received 1,362 applications for permits to impound water. Nine hundred and ninety-seven permits were issued during this time, and the staff made 2,151 inspections of impounded waters. During the biennium, construction was begun on the Buggs Island Reservoir. This dam is being built on the Roanoke River in Virginia at a point approximately 14 miles southeast of Clarksville, Virginia. When completed, approximately 87,900 acres will be inundated when the reservoir is filled to a capacity at an elevation of 320 feet. When filled to an elevation of 300 feet, which is the top of the power

pool, 51,200 acres will be covered. Approximately 28% of the reservoir will be located in North Carolina and the remaining in Virginia. Members of the staff have spent considerable time in making pre-impoundment surveys in the area surrounding the proposed reservoir and in the preparation of reports and recommendations relating to the control of malaria mosquito breeding. Blood slides, which were taken from children living in the immediate section, are now being examined. Thirty-two mosquito catch stations have been established adjacent to the area which will be inundated. During the summer months, these stations are visited at monthly intervals and a record is kept of the genus and species of all mosquitoes captured. After impoundment takes place, the information thus obtained will be utilized in determining the extent to which mosquito breeding has been increased.

Routine blood slide surveys were conducted in the areas suspected of being malarious, and blood smears sent in by practicing physicians to obtain confirmation of their diagnosis were examined by the bacteriologist on our staff. Nine thousand two hundred and thirty-eight smears taken on the surveys and two thousand eight hundred and fifty-four sent in by physicians were examined.

The Entomologist for the Malaria Control and Typhus Control Unit has examined the following number of ecto-parasites during the biennium: five hundred and ninety-four fleas, 19,616 lice, and 3,485 mice. Practicing physicians, local health departments, and individuals sent in 178 specimens of miscellaneous arthropods for identification. Members of the staff gave consultation service, as well as made mosquito surveys, and assisted in the development of urban mosquito programs. Similar help is given to hydroelectric companies on their impounded waters.

Technical assistance was also given to local health departments in organizing and operating fly control programs. The State Board of Health has purchased insecticides in large quantities and resells them to the local health departments at cost. During the biennium, 5,122 gallons of DDT concentrate were purchased for these departments for fly control.

Conclusions

Although we have not had all of the personnel during the two years, which we felt was necessary for the conduct of our activities, the better organization of our work has made it possible for us to accomplish many real improvements during these two years. It is very definite that progress has been made in all of the fields of sanitation and sanitary engineering in this State, but much remains to be done. Our personnel, having become more stable, has made it possible for us to do our work in a more efficient manner. The addition of the two Engineers and one Sanitarian, referred to in the report, will make it possible for us to further expand our activities and render greater assistance to local health departments. The continuing work of the field Training Center at the School of Public Health, University of North Carolina, has contributed much to our program of training and developing local Sanitarians. The program of topical short courses, such as, the Milk Course given at State College, will eventually prove of considerable value,

Possibly the most encouraging activity during the biennium has been the putting into effect by the municipalities of plans previously developed for municipal water and sewerage improvements. The growth of a number of our towns, however, is creating serious water supply problems, and new sources of supply will have to be found for some of our municipalities in the near future.

Our Sanitation Personnel as a whole devoted considerably more time to assisting Sanitarians in local health departments with their specific problems, and in rendering special assistance to other State Agencies. Plans which we have underway for the further expansion of this type of activity should improve sanitation services which our local health departments are rendering to the citizens of their respective counties.

A numerical summary of the inspectional activities is attached to this report.

NUMERICAL SUMMARY OF ACTIVITIES

July 1, 1948 - June 30, 1950

ENGINEERING

Filtration plant inspections	497
Chlorination plant inspections	136
Iron removal plant inspections	62
Well supplies inspected	261
Well sites examined and approved	88
Water samples collected and examined	199
Special investigations conducted (water supplies)	164
Treatment plant inspections	844
Sewer system inspections	111
Stream pollution problems investigated	35
Plant sites investigations	242
Special investigations (sewerage systems)	186
Sand analyses	73
Water supply plans approved	73
Sewage works plans approved	105
Swimming pool plans approved	13
Sewage plant plans furnished	242
Well house plans furnished	12
Swimming pool plans furnished	16
Miscellaneous plans prepared	39
Hospital sites inspected	26
Sources of water supply examined for interstate carriers ..	44
Water points examined (interstate carriers)	80
FHA developments investigated	108
FHA cases processed	3,405
Town or county board meetings attended	54
Special conferences with engineers, city, and county officials	905

Premises inspected for ratproofing and eradication	33,125
Establishments ratproofed	1,570
Cost to owners for ratproofing	\$ 115,735
Premises treated (eradication)	13,674
Premises inspected for DDT dusting	115,202
Premises treated (DDT)	59,184
Pounds of DDT dust used	91,452
Premises treated (Poison)	53,417
Local campaigns supervised (rat poisoning)	36
Outdoor bathing places investigated	63

SANITATION

Milk plant inspections	477
Dairy farm inspections	1,992
Milk surveys completed	71
Milk plant plans reviewed	85
Special investigations—milk	36
Milk samples collected	219
Conferences regarding milk	392
Foodhandling establishments inspected	3,033
School lunchroom inspections	535
Abattoir and meat processing plant inspections	616
Meat Market inspections	949
Frozen Food Locker Plant inspections	229
Poultry Plant inspections	925
Plans reviewed for foodhandling establishments	762
Foodhandler schools held	64
Private water supply inspections	846
Private sewage disposal inspections	888
Privy inspections	2,897
Summer camp inspections	95
Institutions inspected	592
Hospital plans reviewed	304
Public school inspections	230
Swimming pool inspections	57
Hotel and tourist camp inspections	375
Complaints general sanitation	321
Special investigations	212
Special meetings	741
Shellfish packing plants inspected	1,910
Retail seafood markets inspected	214
Patrol inspections of restricted waters	173
Plans distributed	443
Number of court cases	32

BEDDING

Retail places inspected	4,293
Manufacturing plants inspected	7,779
Pieces of bedding condemned	6,811

THE BIENNIAL REPORT THE DIVISION OF ORAL HYGIENE

July 1, 1948 - June 30, 1950

The Division of Oral Hygiene of the North Carolina State Board of Health is glad to report that, during the past biennium, progress has been made in bettering the dental health conditions of the people of our State. We believe that, especially among the children of young adults, there is more widespread and more accurate dental information resulting in improved attitudes and practices. This has been accomplished through the constant and persistent prosecution of an educational program based on sound principles.

The over-all, long-range objectives of the Division of Oral Hygiene is the prevention of dental diseases and of systemic diseases of dental origin through education and through the early detection and correction of dental defects.

If dental health education is to succeed, it must begin with the child. That is why the activity of our Division of Oral Hygiene is centered in the public schools of the State. It is to the classroom that the school dentist, who is especially trained for this work and who devotes his whole time to it, goes. The dentist, trained not only in children's dentistry, but also in child psychology and methods of teaching, is governed in his classroom teaching by the grade level and interests of each particular group. The dentist is equipped with projector, models, posters, and all kinds of gadgets.

After the teaching has been done and a friendly relationship has been established, the dentist inspects the mouths of all of the children. Then the actual corrections are begun. The school dentist has already set up his office, using portable equipment, right in the school building, in a room provided for such purposes. The corrections consist of fillings, extractions, silver nitrate treatments, prophylaxes, and the topical applications of sodium fluoride. Corrections are made for as many of the underprivileged children as time and funds permit.

Parents of the privileged children are notified by postal cards that their children need dental attention and are advised to consult their own dentists. The school dentists make no diagnoses for these referred children.

The educational part of the program does not stop when the dentist leaves the school, for, in addition to the models and charts which he uses, the dentist has with him classroom teaching aids to leave with the teachers to help them in teaching mouth health. It is the classroom teacher who will make the dentist's message a part of the everyday living of the children in her grade. She will correlate it with reading, writing, history, language, and science. In order to make this easier for the teachers, graded dental health material for classroom use, posters and

charts, and news releases for the school papers are prepared and distributed by the Division of Oral Hygiene. This material is available, free of charge, to all of the elementary teachers in the State and is being extensively used by them.

In the field of visual education, the puppet show and dental health museum continue to be popular. The puppet show has just completed its fifteenth year in the schools. During the year, 1949-1950, the show was witnessed by 178,895 children and teachers. Thousands of these children wrote to Little Jack, the hero of the show, and received answers from him. Hundreds of children, on their pilgrimages to the Capital City, visited the dental health museum, known as "Little Jack's House," in the Oral Hygiene Building.

As stated earlier, the emphasis must be on prevention. In the light of the present knowledge of the cause and prevention of dental caries, the three preventive measures which are stressed in our educational program are:

1. Regular visits to the dentist for the early detection and correction of dental defects.
2. Selection and consumption of a proper diet and temperance in the consumption of sweets.
3. Proper and regular brushing of the teeth.

It should be noted that the last two of these are relatively simple and yet effective preventive measures. It is significant that they are measures which can be practiced by every individual and, indeed, are matters over which only the individual has control. It is our task, then, to educate the people to recognize and accept personal responsibility for their own dental health.

During the biennium, July 1, 1948—June 30, 1950, the dentists on the staff of the Division of Oral Hygiene conducted dental health programs in seventy-five Counties. They visited 1,025 elementary schools. The following is a statistical report of their educational and corrective work.

Number of children—mouths inspected	175,777
Number of underprivileged children receiving dental corrections	68,181
Number of children referred to local dentists	107,596

AMOUNT AND CLASS OF TREATMENT ITEMIZED AS FOLLOWS

Number amalgam fillings	27,025
Number cement fillings	7,134
Number silver nitrate treatments	115,423
Number teeth extracted	55,144
Number children—teeth cleaned	58,853
Number sodium fluoride treatments	33,471
Number miscellaneous treatments	6,307
TOTAL NUMBER OF OPERATIONS	303,357
Number of classroom lectures on Mouth Health	3,929
Total attendance at lectures	144,476

As impressive as are these facts and figures, even more important are some of the intangible benefits of the program. We cannot estimate the amount of pain and illness, both dental and systemic, prevented by the early detection and correction of dental defects for these underprivileged children. And it is difficult to realize the great values accruing to the individual and the community from the establishment in the minds and attitudes of the children of a friendly feeling toward the dentist and an appreciation of good dental health. These are some of the results of such a program conducted by dentists trained for the work and devoting to it their undivided time and interest.

It should be noted that only seventy-five of the one hundred counties of our State participated in the service and no county received as much time as was needed. Both of these conditions were due to the shortage of dentists on the staff. However, this biennium marked the greatest increase in the staff since World War II and it is our hope and belief that this upward trend will continue and that more adequate service can be provided.

The program is a cooperative one between the local Health Departments and the Division of Oral Hygiene. Each county defrays part of the expense of its program, and the State Board of Health takes care of the balance with State and Federal funds. The school dentists from the Division of Oral Hygiene are assigned to the various counties for periods of time based on population, local appropriations for the service, and availability of personnel. While in each county the dentist works in close cooperation with the local Health Department.

This report has stressed the school program, and it is here that the major emphasis is being placed. However, adults are being reached through the press, over the radio, and by dental health talks before the many civic clubs. We will continue to provide in every way possible information and experiences that will contribute to the accomplishment of our goal of "prevention through education."

HEALTH PUBLICATIONS INSTITUTE

Although an independent, non-profit corporation, Health Publications Institute, formerly known as Venereal Disease Education Institute, operates as a division of the State Board of Health. The State of North Carolina makes no appropriation whatsoever to the budget of the Institute except to provide quarters in the Old Armory Building. In exchange for these quarters, the Institute makes available a minimum of \$5,000 worth of its educational materials and staff services to the State Board of Health without charge.

The capital funds of the Institute have been provided by grants from the Z. Smith Reynolds Foundation. Current operating expenses are

derived from the sales of its education materials and services. The State Health Officer is a member of its board of directors and its executive committee.

WHAT THE INSTITUTE DOES

1. The Institute develops, produces, publishes and distributes visual aids which are required by people engaged in every aspect of health work, such as books, leaflets, pamphlets, posters, displays, motion pictures, filmstrips, and advertising materials.
2. A professional creative service such as writing, artwork, layout, and consultation is available for the use of health departments and related health agencies requiring such services.
3. Research and evaluation projects in all aspects of health education materials are carried on, not only to the end that its own materials may be adequately tested but independently for other health departments and agencies.

Although charged for to an extent that will make them financially self-supporting, these services are made available on a non-profit basis.

ACCOMPLISHMENTS DURING THE BIENNIUM

Outstanding accomplishments during 1948-50 may be summarized under three headings:

1. During 1949 the Institute operated entirely on its own resources for the first time. Prior to June 30, 1949, and dating from the time of its origin in 1942, the Institute had obtained a financial subsidy from the United States Public Health Service in an amount which paid the salaries of a majority of its employed personnel. Since June 30, 1949, the stepped-up program of the Institute has enabled it to operate on a self-sustaining basis without the aid of any direct subsidy.
2. During the biennium the Institute broadened the scope of its publishing activities to cover the entire field of health, whereas previously its activities had been confined largely to the venereal diseases. At the end of 1950, the total number of available titles of health publications was approximately 150, more than one-third of which were in fields of health other than the venereal diseases, including mental health, cancer, tuberculosis, heart disease, diabetes, rabies, nutrition, vital statistics, maternal and child health, planned parenthood, rheumatic fever, measles, diphtheria, cerebral palsy, the common cold, food poisoning, and polio.
3. During the biennium the Institute became increasingly recognized as national headquarters for health education materials, as indicated by the fact that more than 10,000,000 copies of its various publications were purchased by health workers in every American state and 32 foreign countries.

LOCAL HEALTH DIVISION

The Local Health Division has general administrative supervision of all local health departments engaged in the cooperative public health program in North Carolina. There is an unusual amount of autonomy in health departments in this state. This is as it should be, as most of the public health problems are local in origin and vary markedly with respect to geographical location. The main purpose or objective of this Division is to make it possible for the local health departments to function smoothly and effectively in the execution of a constructive, sound, and result-producing public health program throughout the state. Pride of local ownership is a policy that is constantly stressed with respect to the relationship between this Division and local health authorities. The responsibility of safeguarding the health of the people over which it has jurisdiction rests almost entirely on the local health authorities. State health officials can only aid and abet when assistance is needed and requested. During the past biennium many of the local boards of health have responded magnificently and have shown an acute awareness of their responsibility legally reposed in them as guardians of people's health. That the general public in North Carolina is keenly interested in providing for themselves reasonably adequate public health service is evidenced by the fact that during the past biennium the local appropriation for maintenance of health service has averaged 75 cents per capita per annum. The substantial increase made by the last legislature in the appropriation to aid local health departments has aided materially in the improvement of personnel and services. It is considered rather significant that, notwithstanding this large increase in state allocation to the local health departments, local financial participation has also increased.

One of the chief obstacles to the successful operation of a public health program throughout the state has been the shortage of trained and experienced public health personnel. The most acute shortage has been in the category of health officers. Considerable progress, however, has been made during the past year in filling the vacancies in the health officer category, and it is hoped that in the not too distant future all local health departments will be directed by reasonably competent health officers.

The general functions of the Local Health Division may be outlined briefly as follows:

1. ADMINISTRATION

- a. The Division is expected to formulate, in cooperation with the other divisions of the State Board of Health and representatives of local health departments, the general policies to be followed routinely in the operation of this cooperative program.
- b. Perfect and execute a plan for equitable distribution of state and federal funds to the respective local health departments. A general formula for such allocation has been developed

and was strictly adhered to during the fiscal year 1949-50. The results achieved during the first year of its operation have been practically universally satisfactory.

- c. Assist the local health departments with the preparation of and give final approval to budgets to be used in utilizing the allotted and local funds for the operation of the local health department so that the use of funds allotted to counties will be in accordance with state and federal laws and regulations.
4. Recruit and supervise training of personnel in various categories for use in the local health departments.
- e. In cooperation with the North Carolina Medical Care Commission, assist the local authorities in the procurement of better domiciliary facilities for the health department in the form of modern health centers.

2. CONSULTATION

It is the responsibility of this Division to supply, with the aid of other divisions in the State Board of Health, technical consultation on the various types of activities carried on by the local health department, such as medical administrative guidance, public health nursing, public health education, mental health, laboratory technique, maternal and child health, school health, tuberculosis control, oral hygiene, venereal disease control, epidemiology, and record keeping and clerical work. The cooperation supplied this Division by the directors of other divisions has been exemplary and a source of keen appreciation by the personnel in this Division.

Effective on February 1, 1950, under the reorganization plan of the State Board of Health, venereal disease control was transferred to the Division of Epidemiology and school health coordinating service and the mental health section were assigned to the Local Health Division. The Division as at present constituted embraces the following sections: Administration, Public Health Nursing, Public Health Education, Mental Health, and School Health. Some of the detailed activities and accomplishments of these respective sections will be given in the following pages.

During the biennium one goal of the Local Health Division was achieved, namely, the introduction of some type of local health service in all of the 100 counties of the state.

March 1, 1949—Brunswick County (set up its own department under the supervision of the health officer of Columbus County).

March 1, 1949—Jones County (set up its own department under the supervision of the health officer of Lenoir County).

March 1, 1949—Madison County (set up its own department under the supervision of the health officer of Buncombe County).

July 1, 1949—Pamlico County (set up its own department and came under the supervision of the health officer of Craven County, February 1, 1950).

As of June 30, 1950, there were full-time health services in all of the 100 counties in North Carolina.

At the beginning of the biennium there were 71 full-time local health departments in the state, 47 of which were county health departments, 19 district health departments, and 5 city health departments.

At the close of the biennium there were 75 full-time health departments in North Carolina, 54 of which were county health departments, 18 district health departments and 3 city health departments. The number of counties in each district are as follows:

Two Districts of 4 counties each

Six Districts of 3 counties each

Ten Districts of 2 counties each

There were employed in the 100 counties and 3 city health departments a total of 1,024 full-time workers. Of this number, 57 were health officers, 11 assistant health officers, 1 epidemiologist, and 4 dentists. There were 25 supervising nurses and 438 staff nurses; 214 sanitarians, engineers and veterinarians were employed; and 17 public health investigators (18 Federal V. D. Project workers not shown on the attached data sheet). The other personnel consisted of 16 public health educators, 241 clerks, bacteriologists, technicians, etc.

During the biennium the consultant nursing staff was increased as follows:

1. Mrs. Blanche L. Vincent was employed by the Division on September 27, 1948, as Consultant Public Health Nurse in the field of tuberculosis.
2. Miss Dorothy Boone began work with this Division on the Consulting Nursing staff as of January 15, 1949.

At the beginning of the biennium the Local Health Division was without a director. Dr. R. E. Fox, Director, and Dr. William P. Richardson, Assistant Director, resigned as of June 30, 1948. A few weeks later Dr. John H. Hamilton, Director of the Laboratory of Hygiene, and former Director of County Health Work, was appointed Acting Director by the State Health Officer, Dr. J. W. R. Norton. Dr. Hamilton continued in this capacity, giving part-time service, until Dr. C. C. Applewhite, formerly Regional Medical Director of the New Orleans Regional Office of the U. S. Public Health Service, was appointed Director, effective May 24, 1949. On July 1, 1949, Miss A. Helen Martikainen, Director of Public Health Education on loan to North Carolina from the U. S. Public Health Service, resigned to join the staff of the World Health Organization in Geneva, Switzerland. Miss Elizabeth Lovell, Supervisor of Public Health Education, attached to the Orange-Person-Chatham-Lee District Health Department, was transferred to fill the position vacated by Miss Martikainen. Miss Geneva Drye resigned as Field Representative in August, 1948. Miss Alice Turnage, Field Representative, also resigned May 22, 1949. One of these vacancies was filled when Miss Doris Tillery was added to the staff as of July 15, 1949.

During the biennium 134 persons were given academic public health training. Distribution was as follows:

Health Officers	8
P. H. Nurses	50
Apprentice PHN	3
Sanitarians	11
Apprentice San.	5
Sanitary Engineers	4
Apprentice Jr. P. H. Engr.	1
P. H. Investigators	
Tuition and subsistence	17
Health Educators	18
Apprentice H. E.	2
Statisticians	
(Tuition)	2
Psychiatric Social Workers	2
Nutritionists	2
Hospital Nurses	6
Bacteriologists	
(Travel and subsistence)	3
TOTAL	134

In addition to above trainees, several hundred public health workers were given training in the field of public health, such as orientation, extension courses, short courses relating to orthopedics, tuberculosis, cancer control, mental hygiene, heart disease, geriatrics, child growth and development, v. d. control, insect and rodent control, milk sanitation courses. Also expenses were paid for several public health workers to attend institutes, workshops and seminars.

During this period the film library and drug service has greatly expanded. A full-time secretary and clerk have been added to the personnel to help in the increasing volume of work. To meet the increased demand for equipment by the local health departments, 26 additional lightweight motion picture projectors have been purchased which have been distributed to various departments. This brings the total number of motion picture projectors on loan to local health departments from this office to 75. The film library has expanded further in that 165 prints of 74 different films and filmstrips have been purchased for a total expenditure of \$8,517.80. During the school term of 1949-50 the library distributed a total of 4,213 films to a total of 383 different borrowers including health departments, schools, churches, colleges, P. T. A. and other interested and health conscious groups. Of the most popular films distributed, there were sent out of the office for an average of 421 times per month or 35 films per day with the largest distribution for any single month being 650. With the limited number of popular films available, more than half of the requests could not be filled. With the additional number of films purchased during the closing months of this period, many more requests can be filled and there should be fewer disappointments.

Free venereal disease drugs continue to be available to local health departments, private physicians, rapid treatment centers and other institutions such as Central Prison. For the period covered by this report the following amounts of drugs were distributed:

LOCAL HEALTH DEPARTMENTS:	Penicillin, 39,123,000,000 units; Bismuth, 53,770 cc; other drugs, 168,385.53 grams.
PRIVATE PHYSICIANS:	Bismuth, 6,180 cc; other drugs, 2,070.60 grams.
RAPID TREATMENT CENTERS:	Streptomycine, 2,500 grams; Bismuth, 60 cc.
OTHER INSTITUTIONS:	Penicillin, 150,000,000 units; other drugs, 662.40 grams.

Public health nursing consultation service to local health departments has improved during the biennium because two of the three vacancies on the staff have been filled. Most of the time of one consultant has been spent in helping in the development of the premature infant care program.

Since the transfer of the Mental Health Program to the State Board of Health, special emphasis has been put on staff education in this field. Miss Florence Burnett, a public health nurse with special preparation in mental health has been added to the Duke Psychosomatic Service. The training in mental health there is particularly helpful to public health nurses. Miss Lucy Knox, mental health nurse in Charlotte, is making a real contribution to the nursing service in that area.

Considerable time has been spent in the recruitment of personnel. Local Health service is strengthened through the better preparation of nurses employed by health departments. Miss Evelyn E. Johnson, Educational Director, Public Health Nursing, Department of Field Training, School of Public Health, worked with the State Board of Health on a cooperative project whereby a special quarter of work was given to 20 selected registered nurses in public health during the winter quarter of 1950. This enabled them to take the Merit System examination for the classification of Jr. public health nurse.

The Public Health Nursing Apprentice Program has been initiated with three nurses beginning training in local health departments in January, April, and June, 1950.

During the biennium, the major emphasis in the health education program has continued to be the strengthening of local health programs through recruitment, training and placement of trained health educators as full-time staff members with local health departments.

Miss Ruth Merelyn Thompson, formerly health educator with the Rutherford County Health Department, was employed as Supervisor of Public Health Education for Eastern North Carolina. Miss Thompson is loaned on a part-time basis to Wake County Health Department in addition to her supervisory duties.

The trained health educator jointly employed by the State Board of Health and Appalachian State Teachers' College in Boone to develop a demonstration college-community program has continued the work on the demonstration. The college has assumed a greater portion of the financial responsibility during the biennium.

In cooperation with the U. S. Public Health Service, two trained public health educators were employed to develop demonstration programs of venereal disease investigation and education among Negro groups in Greensboro and Charlotte. Both of these demonstrations are now being financed by the local health departments.

During the biennium, 15 prospective health educators were recruited for one year of graduate study in public health and health education at the School of Public Health, University of North Carolina and North Carolina College in Durham. The public health education apprentice program was initiated in September, 1949, with two apprentices beginning training in local health departments.

The mental health program in North Carolina was first established in July, 1948, under the administration of the Hospitals Board of Control. July 1, 1949, this division was transferred to the State Board of Health under the administrative direction of Dr. J. W. R. Norton, State Health Officer. On February 1, 1950, it was placed in the Local Health Division, Dr. C. C. Applewhite, Director.

With a state appropriation of \$30,000 and a federal allotment of \$100,000, a budget was devised to provide a well-balanced mental health program. The purpose was to extend and expand preventive and correctional mental health services to the greatest number of citizens.

Money was allocated to eight mental hygiene and child guidance clinics—Asheville, Charlotte, Duke Psychosomatic, Duke Child Guidance, Durham Child Guidance, Raleigh Child Guidance, Bowman Gray at Winston-Salem, and Wilmington. A School Social Worker appointed for Winston-Salem City Schools, also psychological services were provided. Two mental health nurses were appointed, one at Duke Psychosomatic and one at Charlotte City Health Department.

Wilmington Clinic discontinued services due to lack of professional staff.

Starting July 1, 1949, Pierre the Pelican pamphlets were mailed to mothers of first born North Carolina children. These are being mailed out from the state office of vital statistics. An evaluation study was financed, employing the services of the Institute of Statistics, University of North Carolina. This study is still in process.

Training courses and institutes were financed from mental health funds. Bowman Gray School of Medicine set up a training course for public health nurses. Ten nurses attend and each course extends over a six weeks' period. The training course in mental health for public health nurses and health officers started at Duke Psychosomatic Clinic, Duke University. This is a permanent training program. Two institutes in mental health were held, one at Asheville and Buncombe County for

all city and county teachers on mental health aspects of sex education. A mental health institute for North Carolina health officers was held at Wrightsville Beach, North Carolina. Psychiatrists and health officers were given an opportunity to discuss many aspects of the mental health program.

Two psychiatric social workers are receiving stipends for their second year of graduate training and will return to the state for employment.

Funds are also being used for maintaining a professional circulating library, also a loan collection of mental health pamphlets for use of all citizens.

Mental health films were made available for distribution through the film library of the State Board of Health.

The North Carolina school health coordinating service which is jointly administered by the State Department of Public Instruction and the State Board of Health officially represented both agencies in the school health and physical education programs in North Carolina during the period July 1, 1948, to June 30, 1950.

In carrying out this responsibility staff members worked with school superintendents, principals and teachers, with public health department personnel, colleges and with representatives of other agencies and organizations interested in the health of children, youth and adults.

The staff of the school health coordinating service and the sources of salary and travel of each are as indicated below:

Mr. Charles E. Spencer, Director; salary and travel paid by State Department of Public Instruction.

Mrs. Ruth Moore Davis, Adviser in Physical Education; salary and travel paid by State Department of Public Instruction.

Mrs. Annie Ray Moore, Health Educator; salary and travel paid by State Department of Public Instruction.

Dr. R. M. Fink, Consultant in Mental Hygiene; salary and travel paid by State Board of Health out of Federal funds.

Mrs. Elsie G. Guffy, Public Health Nurse, responsible for audiometer testing during school year; salary and travel paid by State Board of Health.

Mrs. Julia P. Harshaw, Public Health Nurse (Negro); salary and travel paid by State Board of Health.

Mrs. Georgia W. Barbee, Health Educator (Negro); salary and travel paid by State Board of Health.

Mrs. Lillie Mae Peddy, Secretary, and Miss Mollie O. Liles, Stenographer; salary paid by State Department of Public Instruction.

Positions held by Mrs. Anne Cain and Miss Pearl Weaver, Public Health Nurses, are vacant. These positions are vacant primarily because of the low salary scale set up for these positions. Dr. C. P. Stevick, who is now serving as Director of the Division of Epidemiology, served as co-director of the school health coordinating service during the first year of the biennium and during the second year of the biennium served as a consultant while also acting as the Director of Epidemiology. On June 30, 1950, Dr. Stevick's services as a consultant were discontinued. On July 1, the school health coordinating service was set up, according to the new State Board of Health administrative set-up, under the Local Health Division. This change in administrative set-up did not in any way affect the administrative relationship to the State Department of Public Instruction.

The program of the school health coordinating service included: (1) health instruction, including instruction in safety, nutrition, mental hygiene, alcohol education, prevention of communicable diseases and other areas; (2) health services; (3) physical education; (4) healthful school living. All of these components are closely related.

This section initiated, directed, and conducted, under the authority vested in the State Superintendent, "A Curriculum Study and Improvement Project in Health, Physical Education and Safety." The project was designed to: (1) improve the local school health programs, (2) serve as an in-service education program, and (3) prepare the materials for a publication to be distributed to local schools. Members of other divisions of the State Department of Public Instruction and the State Board of Health participated in planning and conducting the project.

Since the curriculum project was designed as an in-service education project as well as one to publish a bulletin, 192 local committees, representing 120 school administrative units were organized to participate in the curriculum study project. The work of these local committees was directed by the staff members of the school health coordinating service. The state staff met with these local committees in eleven district meetings to assist them in the development of their local projects and to get materials from these local committees for use by the state curriculum committee. The final material to go into the health and physical education and safety curriculum guides was prepared largely by the state curriculum committee made up of 120 persons under the direction of the staff of the school health coordinating service. The staff members served as the editing committee.

The school health coordinating service was designed as the administrative unit to represent the State Department of Public Instruction and the State Board of Health in the administration, supervision and promotion of the school health program including the administration of school health funds allocated to city and county school administrative units and to local boards of health.

The \$550,000 appropriated by the legislature to the State Board of Education as grants-in-aid to local school administrative units were

budgeted for the items listed below in the amounts indicated during the fiscal year July 1, 1949 to June 30, 1950.

Correction of defects	\$296,012.14
Health Educators	24,101.05
Nurses	61,988.75
Physicians	3,024.64
Dentists	7,572.00
Technicians	16,862.00
Travel for all personnel	24,914.82
Clinics	31,837.37
Supplies	26,900.60
Equipment	53,172.60
In-service training	3,649.94
	\$550,000.00

On invitation by local school and health department groups the members of the staff of the school health coordinating service assisted in planning and conducting in-service education programs including workshops, conferences, institutes, surveys, study groups and demonstrations.

This section cooperated with the other divisions of the State Department of Public Instruction and the State Board of Health and with other agencies and organizations, such as the North Carolina Education Association, North Carolina Public Health Association, the Welfare Department, State Commission for the Blind, Highway Safety Commission, and the State Health Council. The staff also attended and participated in conferences held by health and education organizations and agencies. The staff cooperated with teacher education personnel in the improvement of the pre-service and in-service education of teachers of health and physical education.

One of the activities carried on in connection with all phases of health and physical education was that of preparation of specific materials for general distribution and in response to special requests. Materials prepared included: (1) curriculum materials; (2) materials for local health committees; (3) articles for the September issue of the "Health Bulletin," published by the North Carolina State Board of Health; (4) the Manual of Screening and Medical Examination of Elementary School Children was revised and a supply printed; (5) physical education bulletins—indoor games, folk dances; (6) special materials concerning the program—Improving School Health Programs in North Carolina and Screening and Medical Examination; and (7) News Letters for teachers of health and physical education.

The hearing conservation program was given a boost the second year of the biennium because of the availability of school health funds to purchase audiometers and to employ audiometer technicians. Staff members gave consultant services to local schools and health departments and assisted in training technicians in counties and cities beginning audiometer testing of school children. A manual for use by technicians, administrators, supervisors, and others was prepared and distributed.

The Negro staff members worked intensively in the following counties: Washington, Halifax, Hyde, Warren, Vance, Onslow, Rutherford, Robeson, Northampton, and Randolph. Their work consisted of giving in-service education to teachers in health instruction, teacher screening and follow-up, and adult education.

Health education workshops were sponsored cooperatively by the school health coordinating service and the University of North Carolina during the summer of each year of the biennium. The purpose of the workshops was to provide opportunities for teachers, school administrators and health workers (1) to study the major health problems of children and adults, (2) to assist them in planning functional programs to meet the needs in their own particular school situations; and (3) to gain basic information and a mastery of skills and techniques essential to the best implementation of such programs.

Pertinent data relative to the financial cost of local health departments is shown in Table No. 1-A and in Table No. 1-B.

DIPHTHERIA, WHOOPING COUGH, & SMALLPOX VACCINATIONS FOR 1948 & 1949 BY AGE BREAKDOWNS

		Under 1 Yr.	1 Year	2 Years	3 Years	4 Years
Diphtheria	1948	19,801	8,466	6,216	4,792	5,940
	1949	22,584	9,858	7,477	5,349	5,560
Whooping Cough	1948	19,433	7,952	5,276	4,329	4,942
	1949	22,434	9,890	7,021	5,080	4,880
Smallpox	1948	5,277	2,558	2,261	2,596	6,877
	1949	6,814	2,971	2,796	2,823	4,345

BIENNIAL REPORT OF VENEREAL DISEASE EXPERIMENTAL LABORATORY

July 1, 1948-June 30, 1950

ADMINISTRATIVE

The period since our last biennial report has been one of phenomenal growth for this laboratory, not only in physical facilities and personnel but in responsibilities as well. The Venereal Disease Research Laboratory building authorized by the last legislature under 1949 Session Laws of North Carolina, H. B. 31, Chapter 1248, Sec. 4, Item 7 was completed in October, 1949, and the equipment provided by the U. S. Public Health Service was installed by the middle of April, 1950. There has been an increase in personnel from twelve persons to a present total of thirty-three persons, all of whom are Federal employees, either Commissioned Officers of the Public Health Service or Civil Service appointees. With the closing of the Venereal Disease Research Laboratory in Staten Island, New York, on March 15, 1950, this laboratory assumed responsibility for the basic research work within the Venereal Disease Division of the Public Health Service.

RESEARCH ACTIVITY

Our research activities encompass a wide variety of problems involving fundamental research on the venereal diseases and allied infections. The following list of publications barely indicates the scope of the work, since our activities in the chemotherapeutic, biochemical and bacteriological fields have had to await the completion of adequate laboratory facilities.

1. Magnuson, H. J. and Rosenau, B. J., The Rate of Development and Degree of Acquired Immunity of Experimental Syphilis, *Am. J. of Syph., Gonorr. and Ven. Dis.*, Vol. 32, pp. 418-436, Sept., 1948.
2. Halbert, S. P., The Relation of Antagonistic Coliform Organisms to Shigella Infections. I. Survey Observations, *J. of Immunol.*, Vol. 60, pp. 23-36, Sept., 1948.
3. Halbert, S. P., The Relation of Antagonistic Coliform Organisms to Shigella Infections. II. Observations in Acute Cases, *J. of Immunol.*, Vol. 60, pp. 359-381, Nov., 1948.
4. Magnuson, H. J., Current Concepts of Immunity in Syphilis, *Am. J. of Med.*, Vol. V, pp. 641-654, Nov., 1948.
5. Magnuson, H. J., and Rosenau, B. J., The Treatment of Asymptomatic Neurosyphilis in the White Mouse, *J. of Invest. Derm.*, Vol. II, pp. 435-441, Dec., 1948.
6. Halbert, S. P., and Gravatt, M. S., The Relation of Shigella Type Specificity and Susceptibility to Antibiotic Producing Strains of Escherichia Coli, *J. of Immunol.*, Vol. 61, pp. 271-282, March, 1949.

7. Halbert, S. P. and Gravatt, M. S., Further Studies on the Prevalence of Antibiotic-Producing Coliform Organisms, *Am. J. of Bact.*, Vol. 61, pp. 313-318, March, 1949.
8. Magnuson, H. J., Rosenau, B. J., and Clark, J. W., Jr., The Susceptibility of Various Strains of Mice to Experimental Syphilis, *Am. J. of Syph., Gonorr. and Ven. Dis.*, Vol. 33, pp. 308-317, July, 1949.
9. Magnuson, H. J., Rosenau, B. J., and Clark, J. W., Jr., The Duration of Acquired Immunity in Experimental Syphilis, *Am. J. of Syph., Gonorr. and Ven. Dis.*, Vol. 33, pp. 297-302, July, 1949.
10. Magnuson, H. J., Present Trends in the Treatment of Syphilis, *North Carolina Medical Journal*, Nov., 1949.
11. Freedman, L. D. and Doak, G. O., Arseno Derivatives of Phenyl Substituted Fatty Acids, *J. Am. Chem. Soc.*, Vol. 71, p. 779, 1949.
12. Magnuson, H. J. and Thompson, F. A., Jr., Treponemal Immobilization Test of Normal and Syphilitic Serums, *J. of Ven. Dis., Inf.*, Vol. 30, pp. 309-320, 1949.
13. Freedman, L. D. and Corwin, H., Oxidation-Reduction Potentials of Thiol-Disulfide Systems, *J. Biol. Chem.*, Vol. 181, p. 601, 1949.
14. Magnuson, H. J., Thompson, F. A., Jr., and Rosenau, B. J., The Effect of Subcurative Penicillin Therapy upon the Rate of Development of Acquired Immunity in Experimental Syphilis, *Am. J. of Syph., Gonorr. and Ven. Dis.*, Vol. 34, pp. 219-226, 1950.
15. Tauber, H., Synthesis of High Molecular-weight Protein-like Substances by Chymotrypsin, *Federations Proceedings*, Vol. 9, p. 237, 1950.
16. Tauber, H., *The Chemistry and Technology of Enzymes*, John Wiley and Sons, Inc., New York.
17. Thompson, F. A., Jr., Greenberg, B. G., and Magnuson, H. J., The Relationship Between Immobilizing and Spirocheticidal Antibodies Against *Treponema Pallidum*, *J. Bact.* (In press).
18. Thompson, F. A., Jr., and Magnuson, H. J., Studies in Increasing the Sensitivity of the Treponemal Immobilization Test for Syphilis, (In press).
19. Magnuson, H. J., Rosenau, B. J., and Greenberg, B. G., The Effects of Sex, Castration and Testosterone upon the Susceptibility of Rabbits to Experimental Syphilis, (In press).
20. Arnold, R. C., Wright, R. D., and McLeod, Charlotte, The Development and Character of Immunity in Latent Syphilis, (In press).
21. Bucca, M. A., Thayer, J. D., Roberts, Harriett B., and Tager, Bernard, Dehydrogenations Produced by the Reiter Spirochete, (In press).
22. Tauber, H., Chymotrypsin Inhibition by Human Serum in Health and Disease, *Proceedings for the Soc. of Exp. Biology and Medicine*, (In press).

23. Tauber, H., Synthesis of High-molecular-weight Protein-like Substances by Chymotrypsin, *J. of Biological Chem.*, (In press).
24. Jaffe, H. and Doak, G. O., Disproportionation of Aromatic Stiboso Compounds. II. Methods of Synthesis, *J. Am. Chem. Soc.*, (In press).
25. Jaffe, H. and Doak, G. O., Disproportionation of Aromatic Stiboso Compounds. III. Effect of Structure, *J. Am. Chem. Soc.*, (In press).
26. Doak, G. O. and Eagle, H., Correlation Between the Chemical Structure and Biological Activity of Arsensobenzenes, (In press—monograph form).
27. Doak, G. O., Heterocyclic Derivatives of Phosphorus, Arsenic, Antimony, Bismuth and Silicon, *J. Am. Chem. Soc.*, (In press—book review).

TEACHING ACTIVITIES

The Director has continued to teach courses in venereal disease control to the physicians, nurses, health educators and others registered in the School of Public Health at the University of North Carolina. Courses have also been offered to the health educators at the North Carolina College in Durham. Dr. G. O. Doak, Director of our Chemistry Section, has for the past year taught courses in the Department of Chemistry at the University of North Carolina. It is anticipated that with our greatly expanded professional staff, such teaching activities will be increased and diversified. Papers were presented by staff members at the following meetings:

1. Eleventh Venereal Disease Postgraduate Course held in Hot Springs, Arkansas, on Nov. 1, 1948—Harold J. Magnuson, Serology and Immunology of Syphilis.
2. Eleventh Venereal Disease Postgraduate Course held in Hot Springs, Arkansas, on Nov. 1, 1948—Harold J. Magnuson, Experimental Aspects of Chemotherapy.
3. Symposium, Recent Advances in Studies of Venereal Diseases held in Washington, D. C., on April 6, 1949—Harold J. Magnuson, The Susceptibility of Various Strains of Mice to Experimental Syphilis.
4. Symposium, Recent Advances in Studies of Venereal Diseases held in Washington, D. C., on April 6, 1949—Harold J. Magnuson, The Duration of Acquired Immunity in Experimental Syphilis.
5. Symposium, Recent Advances in Studies of Venereal Diseases held in Washington, D. C., on April 6, 1949—F. A. Thompson, Jr., An Attempt to Produce Aortic Lesions of Syphilis in Experimental Animals.
6. Lecture to Harvard Medical Students in Boston, Massachusetts on April 22, 1949—Harold J. Magnuson, Immunology and Seriology of the Venereal Diseases.

7. Meeting of the Society for Clinical Investigation held in Atlantic City, New Jersey, on May 2, 1949—Harold J. Magnuson, Spirocheticidal Antibodies in Syphilis.
8. State Medical Society held in Pinehurst, North Carolina, on May 10, 1949—Harold J. Magnuson, Present Trends in the Treatment of Syphilis.
9. North Carolina Society of Bacteriologists held in Chapel Hill, North Carolina, on October 8, 1949—F. A. Thompson, Jr., Spirocheticidal Antibodies in Syphilis.
10. New England Venereal Disease Control Seminar held in Boston, Massachusetts on October 12, 1949—Harold J. Magnuson, The Use of the Treponema Immobilization Test in Normal and Syphilitic Serums.
11. Venereal Disease Control Seminar held in Washington, D. C., on April 27, 1950—Harold J. Magnuson, The Effect of Subcurative Penicillin Therapy upon the Rate of Development of Acquired Immunity in Experimental Syphilis.
12. Venereal Disease Control Seminar held in Washington, D. C., on April 27, 1950—Barbara J. Rosenau, The Effects of Sex, Castration, and Testosterone on the Infectious Inoculum of *T. pallidum* (Nichols strain) for the Rabbit.
13. Lecture to Harvard Medical Students in Boston, Massachusetts, on May 5, 1950—Harold J. Magnuson, Immunology and Serology of the Venereal Diseases.
14. Symposium on Chemical-Biological Correlation held in Washington, D. C., on May 26, 1950—Harry Eagle and George O. Doak jointly, The Toxicity and Parasiticide Action of Aromatic Arsenicals in Relation to Their Structure.

NORTH CAROLINA SYPHILIS STUDIES REPORT FOR THE BIENNIUM

July 1, 1948, to June 30, 1950

The field epidemiological studies of syphilis at the School of Public Health of the University of North Carolina, which were set up in 1940 to follow the trends in syphilis over a long period of time, have continued to receive the support of the North Carolina State Board of Health and the International Health Division of the Rockefeller Foundation during this biennium.

Detailed data has been gathered continuously since 1940 to provide the basic information necessary for the estimation of syphilis trends and the evaluation of control measures. Two study areas contiguously situated have been used for this purpose. These are the Orange-Person-Chatham Health District, which is a typical southern rural area, and the Durham City-County Health Department, which is a typical southern urban area. The population covered is approximately 185,000 living in an area of 1,792 square miles. It is believed that what was happening in these areas should be fairly typical of the State of North Carolina as a whole.

During the first years of the study principal emphasis and effort were directed toward the accumulation of accurate data. During this biennium, it was possible for the professional staff to make a significant start in the evaluation of the reliable data which had been gathered over the years. The rapport established since the beginning of this study by the staff members with the sources of data now make it possible to accumulate the required data with a minimum of effort so that in this biennium it has been possible to direct the principal emphasis and effort of the staff toward the processing and analysis of these data.

During this period the following studies were published:

1. Wright, J. J., and Sheps, C. G.: REPORTS OF THE NORTH CAROLINA SYPHILIS STUDIES. I. "An Evaluation of Case-Finding Measures in Syphilis Control." *Journal of Venereal Disease Information*, Vol. 30, No. 2, February, 1949.
2. Wright, J. J. and Sheps, C. G.: REPORTS OF THE NORTH CAROLINA SYPHILIS STUDIES. II. "An Evaluation of Case-Finding Measures in Multiple Episodes of Infectious Syphilis," *Journal of Venereal Disease Information*, Vol. 30, No. 7, July, 1949.
3. Wright, J. J. and Sheps, C. G.: REPORTS OF THE NORTH CAROLINA SYPHILIS STUDIES. III. "An Evaluation of Case-Finding Measures in the Control of Gonorrhea." *Journal of Venereal Disease Information*, Vol. 30, No. 8, August, 1949.
4. Wright, J. J., Sheps, C. G., and Gifford, A. E.: REPORTS OF THE NORTH CAROLINA SYPHILIS STUDIES. IV. "Some Problems in the Evaluation of Venereal Disease Education." *Journal of Venereal Disease Information*, Vol. 31, No. 5, May, 1950.

In addition to the above, the following papers have been completed:

Greenberg, B. G., Wright, J. J., and Sheps, C. G., "The Analysis of Some Factors affecting the Incidence of Syphilis." *Journal of American Statistical Association*. In Press.

Wright, J. J., and Sheps, C. G., "The Role of Case-Finding in Syphilis Control Today." *American Journal of Public Health*. In Press.

Wright, J. J., Sheps, C. G., and Gifford, A. E., REPORTS OF THE NORTH CAROLINA SYPHILIS STUDIES. V. "Indices in the Measurement of Congenital Syphilis." *American Journal of Syphilis, Gonorrhea and Venereal*. In Press.

Studies are proceeding on the basis of which it is expected to complete reports dealing with the following problems:

1. Some factors affecting the syphilis attack rate.
2. Epidemiological indices in syphilis control.
3. Trends in the discovery and attack rates of syphilis.
4. Syphilis in parturient women as an Index of prevalence in the general population.
5. The contribution of the routine prenatal blood test to the discovery of syphilis in pregnancy.

Papers were read at the following scientific meetings:

1. American Venereal Disease Association Eleventh Annual Session, Washington, D. C., April 8, 1949.
2. North Carolina Public Health Association Annual Meeting, Greensboro, North Carolina, September 17, 1949.
3. Public Health Service Venereal Disease Control Seminar, Roanoke, Virginia, December 6, 1949.
4. Public Health Service Venereal Disease Control Seminar, Chicago, Illinois, February 16, 1950.
5. Public Health Service Venereal Disease Control Seminar, Jackson, Mississippi, April 5, 1950.
6. American Venereal Disease Association, April 28, 29, 1950, Washington, D. C.

These Studies are proving to be of value as a guide for the development of adequate control programs which provide the necessary balance between efficiency, productivity and economy. There is increasing evidence that these studies are proving their value for the above mentioned purpose in many sections of the country.

In addition to the work of the study itself, various members of the study staff have participated in educational activities relating to venereal disease control. Perhaps the most important of these has been active

participation in the planning and conducting of a series of institutes for the training of personnel in the epidemiological aspects of venereal disease control. During the period covered by this report, five such institutes, each one week in duration, were organized and in this way instruction was provided for 70 nurses from various health departments in the State. In addition, there was participation in four special programs, lasting from one to three days each, for nurses, male investigators, and a group of navy personnel from Camp LeJeune. The number of persons involved in this group of programs was approximately 50.

The end of this biennium brings to a close the participation of the International Health Division of the Rockefeller Foundation in the support of these studies. The Rockefeller Foundation has supported these studies in the ten year period since their inception. In the belief that the studies have demonstrated the value sufficiently so as to merit more support from official agencies, the Foundation provided a terminal grant for the year 1949-50.

Starting July 1, 1950, the study is proceeding with increased support from the State Department of Health and with a large measure of support from the Venereal Disease Division of the Public Health Service. The primary focus of the study activities henceforth will be on the problems of the control and eradication of congenital syphilis. The ground work for this has already been laid by some of the work which has been done by the study during the past few months.

Respectfully submitted

JOHN J. WRIGHT, M.D., M.P.H.

Director North Carolina Syphilis Studies

DIVISION OF PERSONAL HEALTH SERVICE

July 1, 1948 - June 30, 1950

Toward the close of the biennium under consideration, that is the period ending June 30, 1950, a complete reorganization of the State Board of Health was made. For the early part of the biennium until February, 1950, there were 14 divisions of the State Board of Health. The Division of Preventive Medicine embraced the Maternal and Child Health Service work and the Crippled Children's Department. Following the reorganization in which the total number of divisions was reduced to seven, the departments prior to February 1 which enjoyed divisional status were changed to sections and the following were placed under the general Personal Health Division: Nutrition, Cancer Control and Heart Disease Control. This with the departments previously constituting the division, namely, Maternal and Child Health Service and Crippled Children, at the close of the biennium, therefore, constituted the Division of Personal Health Service. All of these five sections were therefore placed under the direction of the Director of the Personal Health Service work, as just said, previously known as the Division of Preventive Medicine. Reports for all of these sections are therefore embraced under the general heading of Division of Personal Health Service. The reports will be found in the following pages.

The heart disease program has not as yet been organized as completely as it is hoped to be done at an early date in the new biennium. Several conferences were held with the representatives of the United States Public Health Service, especially with Dr. Alice Waterhouse, who has been to the State several times and who is Regional Director of the heart disease program for the United States Public Health Service. In cooperation with Dr. Waterhouse, arrangements were made prior to June 30 for aid in expanding the Duke heart disease diagnostic clinic, and also the Watts Hospital heart disease clinic, both situated in Durham. Modern diagnostic equipment was provided for these hospitals to expand their program. Other aids were promised. In Charlotte allocation of funds was made sufficient to provide for electrocardiograph machines and other diagnostic aids for the three outfits in Charlotte carrying on this work in order for them to be able to expand and improve the quality of this service. Up to the time this report is submitted, this is about all that has been done so far. It is hoped that this important part of the work will be greatly extended and improved during the new biennium.

MATERNAL AND CHILD HEALTH SECTION

As the most important piece of new work carried on by the Maternal and Child Health Section for this biennium was the work for prematurely born infants, this work, as will be noted by the report following, was inaugurated after extensive plans covering a considerable period of time were worked out. It has been, as will be noted, an expensive program, but it is the only method so far promoted anywhere that will materially reduce the high death rate among these babies. In short, it means at this

time the principal dependence on the State infant death rate being reduced in proportion to the reductions taking place in other states. The report follows.

The Premature Infant Care Program of the State Board of Health was instituted July 1, 1948. At that time there were only two hospitals participating in the Premature Program. As of June 30, 1950, a total of six premature centers were in operation which came up to the minimum standards set up; and a total of 80 beds in all. The centers are as follows: Biltmore Hospital in Asheville, Baptist Hospital in Winston-Salem, Rex Hospital in Raleigh, James Walker Memorial Hospital in Wilmington and Duke and Watts Hospitals in Durham. Statistics on the mortality of premature infants in these hospital centers before and after the centers were established show that the premature mortality was cut almost in half after the centers were established. The premature centers listed above can only take care of about one-fifth of the total number of premature infants born in this State. With this in mind a plan was adopted to help the smaller hospitals where there was a pediatrician in attendance. Four of these smaller hospitals have been assisted thus far. Conferences on the Premature Program have been held with local public health nurses and medical personnel throughout the State. Heated aluminum carriers equipped with oxygen for transporting the infants to the approved centers from their homes or smaller hospitals have been placed in the local health departments in the various counties. A bill requiring the reporting of all premature infants born in this State within 24 hours after birth was passed by the 1949 Legislature. Twenty nurses, both public health and otherwise, were given scholarships in premature care during the biennium.

Total cases authorized	846
Total cases closed	756
Average Cost per Case	\$429.52
Payments to Hospitals	291,931.60
Payments to Physicians	32,788.00
Total Payments	\$324,719.60

In view of an expanded program all throughout the State embracing local health department work, as well as the work of the various divisions of the State Board of Health, this report is materially condensed and an effort is made to simply set forth a few of the items which will illustrate the activities carried on in the Maternal and Child Health Section. Therefore, instead of the voluminous detailed figures heretofore published in this report, the following will be sufficient to section's activities:

M & I CLINICS—

Clinics	5,977
Maternity Visits	56,747
Infant and Preschool visits	93,775
Doctors in attendance	268

(In addition to Health Officers)

NURSE WORK—

School: Schools completed during biennium	60
Children inspected	8,496
Children found defective	5,879
Hearing	19
Vision	899
Teeth	3,134
Throat	2,995
Breathing	1,518
Posture	39
Orthopedic	21
Skin	209
Other	894
Children with tonsils removed	1,223
Midwife: Midwife meetings held	36
Physicians attending meetings	16
Home visits to midwives	197
Registered midwives examined	155
New applicants examined	13
Registered midwives given renewals—	
Grade A	10
Grade B	4
Grade C	3
New applicants given permits—	
Grade C	1
Midwives reporting regular use of silver	
nitrate drops	122
Midwives claiming to report births promptly....	123

CRIPPLED CHILDREN'S SECTION

The work in this section was gravely handicapped during the last year of the biennium on account of the insufficiency of funds. This was brought about for two reasons. First, there was very little money received from the Children's Bureau, source of all of the income expended in this department for the last fourteen years, from unexpended balances available from other States not utilizing all of their funds and which were therefore reallocated to States like North Carolina which used all of the funds available. The second reason was the increased cost of hospitalization and of appliances such as artificial limbs, braces, etc. This made the same service as heretofore provided cost a great deal more money. For that reason, for a period of three and a half months, from February 1 to May 15, 1950, no authorizations for hospitalization except the direst emergencies could be made. As a consequence, there were fewer children who received surgical operations and hospitalization during that particular period. Since the inauguration of this work in 1936 following the enactment of the Social Security Law by the United States Congress, the only available funds on which to operate the department and provide this medical, surgical and hospital service for the several thousand crippled children which have benefited by the service has been from funds appropriated by Congress and allocated to the North Carolina State

Board of Health by the United States Children's Bureau. Not a cent of State funds have been available to the State Board of Health to expend in this service. Request for an appropriation by the State Legislature to supplement the federal funds will be made to the 1951 session of the Legislature. It is to be hoped that this request will be granted in order to prevent a recurrence of suspension of work of hospitalization and medical and surgical operations at any time during the next biennium. A brief detail of actual work done is herewith included:

TABLE 1

CASE STATISTICS OF MAJOR SERVICES

1. General hospital admission authorizations outstanding as of July 1, 1948	554
2. General hospital admission authorized during biennium...	2,451
3. General hospital extension authorizations issued during biennium	511
4. Crippled children under general hospital care July 1, 1948..	81
5. Crippled children admitted to general hospital during biennium	1,901
6. Crippled children discharged from general hospital during biennium	1,963
7. General hospital admission authorizations outstanding June 30, 1950	63
8. Total number of days care provided in general hospitals...	36,104
9. Children provided convalescent or foster home care during biennium	147
10. Number of appliances purchased during biennium	714
11. Number of applications received State office and deferred as of June 30, 1950	197

TABLE 2

STATE CLINICS

1. Number of orthopedic clinics held	556
2. Number of new cases admitted to clinics	10,537
3. Number of old cases admitted to clinics	10,688
4. Total number of cases attending clinics	21,225
5. Number of cast procedures	931
6. Number of brace procedures	1,108
7. Number of dressings applied	321
8. Number of bandage procedures (proprietary)	293
9. Number of corrective shoes	2,985
10. Number of corrective exercises	2,200
11. Number of dietetic treatments	1,610

TABLE 3

1. OFFICE

a. Number of staff conferences	105
b. Number conferences with surgeons	954
c. Number conferences with health officials	1,498
d. Number conferences with welfare officials	681
e. Number conferences with official bodies	180
f. Number conferences with non-official bodies	150
g. Number of other conferences	1,815
h. Number talks	77
i. Number in attendance	1,798

2. CLINIC

a. Clinic attendances	834
b. Number patients contacted	21,799
c. Number instructions to patients	11,405

3. FIELD

a. Number investigating cases	439
b. Number new cases located	325
c. Number home visits to new cases	149
d. Number home visits to old cases	594
e. Number new cases referred to clinic or surgeon	154
f. Number old cases referred to clinic or surgeon	862
g. Number not home visits	171
h. Number appliances adjusted	60
i. Number exercises given or instructed	600
j. Number therapies given or instructed	7
k. Number cases referred to Vocational Rehabilitation	387

**BIENNIAL REPORT, THE NUTRITION SECTION,
DIVISION PERSONAL HEALTH SERVICE
NORTH CAROLINA STATE BOARD OF HEALTH**

July 1, 1948 - June 30, 1950

The plan for Nutrition Service begun in 1944 has developed slowly but steadily. The years covered by this report show the greatest amount of progress due to the fact that it was possible to secure a more adequate staff to meet the demands made upon the service. The Nutrition Division asked for a sum of \$20,480 of the 1949 General Assembly. An appropriation of \$10,000 was allowed, which was helpful even though inadequate to take care of the requests for service received from over the state.

In February, 1950, with the reorganization of the State Board of Health, the Nutrition Division became a Section under the Division of Personal Health. The services of the Section, however, continue as before.

OBJECTIVES

The Nutrition Section has had as its objective, (1) to promote a better understanding of the importance of nutrition as a factor in the maintenance of good health and how this information may be applied in daily food selection, (2) to provide consultation service to the state and local health departments, welfare departments, state and county institutions and other agencies concerned with the health and welfare of the people, (3) to plan and cooperate with other official and voluntary agencies in an effort to coordinate and promote better health through improved nutrition practices.

ACTIVITIES

The size of the present staff permitted work in 40 of the 100 counties of the state and in 7 cities during the past two years.

In the health departments the nutritionists worked with health officers, nurses, health educators and sanitarians in the planning of and participation in local programs in which nutrition was a factor.

In-service training in nutrition was provided at regular intervals for public health nurses in the counties covered. There were 68 conferences with 942 nurses.

The nutritionist worked with other health department personnel in clinics for prenatals, crippled children, well-baby and pre-school children. There were 56 group discussions and 381 individual conferences held in these clinics.

The dietitian and nutritionists participated in 8 food handlers courses at the request of the sanitarian. This is a new service started in 1950 which is being provided by the Nutrition Section.

Nutritionists provided in-service training program for 3,308 teachers and gave additional consultation service to 502 teachers who began to include nutrition teaching in their regular health instruction program.

Special training programs were provided for the North Carolina State School for the Deaf at Morganton and for the State School for the Blind in Raleigh.

Dietary surveys on 9-11 year old children have been continued. During this two year period 841 children were interviewed and diet histories taken for three consecutive days. The information gained through these surveys provides the basis for nutrition work in the communities where the children live.

A consulting dietitian was employed in September, 1948, to work with state and county hospitals, sanatoria, homes for the aged and special schools on the improvement of food service and management in those institutions. This service, like the nutrition services, is conducted on a request basis and requests have been far too numerous to be handled by one person.

The dietitian cooperates with the Division of Sanitary Engineering in reviewing kitchen plans for the Medical Care Commission with respect to operational efficiency. She has reviewed 55 sets of plans and 18 sets of specifications for the Commission.

SPECIAL ACTIVITIES

During the year 1949-1950 the Nutrition Service has carried on some special programs.

STUDIES

Joint planning with the State Board of Public Welfare has enabled the Section to make a study of the dietary needs of the families receiving Aid to Dependent Children's funds. The findings of the study are being summarized at the present time.

A second study in cooperation with the State Board of Public Welfare is being conducted in Institutions for the Aged to determine the food practices of older people. This study is being continued.

A demonstration program with the School Lunch Division of the Department of Public Instruction and the Nutrition Section has been started in six selected schools in the state to determine the best method for coordinating classroom instruction in nutrition with that of actual application in the school lunchroom. This study is also being continued. Local health departments have contributed much to this study.

The nutritionists on the staff worked with the director of the Health Publications Institute in planning six prenatal leaflets and posters for use of the health departments, doctors, prenatal clinics and others working in the field of nutrition.

OTHER PROJECTS

Nutritionists have served on the staff of colleges for special graduate courses given, at the University, Woman's College and North Carolina College, for public health nurses, public health nutritionists, and public school teachers. In addition, the nutritionists work with students majoring in food and nutrition at Woman's College and Bennett College. The students receive field training in maternity clinics conducted by the health department, under the supervision of the nutritionist.

Nutritionists assisted in the in-service training programs of health personnel assigned to state and local areas in the fields of nursing, nutrition, medical science, sanitation, and health education, including the supervision of the public health field training for dietetic interns at Duke Hospital.

Nutritionists also assist regularly in workshops, conducted by the School Lunch supervisors, for their managers and workers.

NEEDS

Increased demands for service will necessitate a larger staff if the people of the state are to be served in accordance with their needs. A consultant, who must attempt to service 14-17 counties must spend too much time in travel and too little time working with the people of the state.

It is requested, therefore, that the General Assembly appropriate \$25,000 per year for the next biennium to permit the service to be extended to those parts of the state which cannot be covered adequately at this time with the present budget and staff.

BIENNIAL REPORT OF THE CANCER SECTION, DIVISION OF PERSONAL HEALTH

July 1, 1948 - June 30, 1950

On March 1st, 1948, the Division of Cancer Control was organized with Ivan Procter, M.D., Director, and Mildred Schram, Ph.D., Field Director.

Prior to this date a plan of Statewide Cancer Control had been approved by the State Health Officer, the State Board of Health, and the Cancer Committee of the North Carolina State Medical Society.

After the plan had been in operation for six months a progress report was presented to the State Cancer Committee and the Executive Committee of the State Medical Society, both of which approved the details of operation.

The first step was the presentation of the plan by the Director to the following County Medical Societies: Wake, New Hanover, Buncombe, Forsyth, Mecklenburg, Guilford, Durham-Orange, and Lenoir. In each instance the membership of the County Medical Society voted approval of the plan.

Orders for equipment and instruments were placed with the State Department of Purchase and Contract.

Eleven Cancer Centers are now in operation, 8 Detection and Diagnostic, 3 Detection only. Six are in Health Departments, 4 are in hospitals, 1 is in a Court House in rooms immediately below the Health Department quarters. The 11 Centers bring these examinations within 50 miles of 76% of the population of the State. Centers now in operation are:

Buncombe County Cancer Center, Asheville.
Durham-Orange Counties Cancer Center, Durham.
Edgecombe-Nash Counties Cancer Center, Rocky Mount.
Forsyth County Cancer Center, Winston-Salem.
Guilford County Cancer Center, Greensboro.
Lenoir County Cancer Center, Kinston.
New Hanover County Cancer Center, Wilmington.
Wayne County Cancer Center, Goldsboro.
Jackson-Swain Counties Cancer Detection Center, Sylva.
Northeastern Carolina Cancer Detection Center, Elizabeth City.
Wilkes-Alleghany Counties Cancer Detection Center, Wilkesboro.

There has been rotation of staffs and of Directors in a number of Centers without disturbing their smooth and effective functioning.

During the two-hour Detection Clinic period, forty are examined. The number studied at the Diagnostic Session varies from two or three to many times that number, depending upon findings by the detection staff. Present capacity in the Detection Clinics is 1,600 a month.

Up to April 30, 1950, 14,654 had been examined. One case of cancer was found in approximately every 34 individuals examined. Only 17.5% of the examinees are men, but 36.5% of the cancers found have been in men. Slightly under 10% of all applicants for examination are colored—much too small a percentage, since statistics indicate that about $\frac{1}{3}$ of North Carolinians are of the colored race. Disposition of examinees falls into approximate thirds, one-third being entirely well (negative findings), one-third being referred to their personal physicians for care of non-malignant conditions or lesions noted by the detection examiner, the final third being studied at the Diagnostic sessions. All of the latter, regardless of final diagnosis, are referred to their personal physicians for treatment. This means that two out of every three who go to a Cancer Center are potential patients—and private patients, since only about $\frac{1}{2}$ of 1% have been referred to Departments of Welfare. All referrals are by letter, and give the diagnosis and recommendations agreed upon by the staff. A number of the examinees were under the age limit of 40 years, having been referred by their physicians, or presenting a valid symptom of malignant disease.

In all Centers, special provision is made for colored examinees, of whom, as noted above, there is not a sufficient percentage. In some Centers, colored physicians and colored nurses serve—a fact which is reported with interest and pride.

By way of emphasis, the average of the cancer findings may be listed as follows:

- One in 15 white men was found to have cancer;
- One in 18 colored men was found to have cancer;
- One in 19 colored women was found to have cancer;
- One in 49 white women was found to have cancer.

A little over half of the cancers found were early. A little over half of the cancers found were in those under sixty—in other words, in those who could be expected to continue to be productive citizens.

Each month summaries of the findings, arranged by Centers, are sent to all Cancer Center Directors, Health Officers, Supervising Nurses, the State Board of Health, Division Directors, officers of the State Medical Society and of the North Carolina Division of the American Cancer Society, the State Medical Society Cancer Committee, and other interested individuals.

The 1949 State Legislature helped the Division of Cancer Control in three ways: (1) made a substantial appropriation for the Cancer Control Program; (2) amended Sub-sections 1 and 2 of G. S. 130-285 (1947 Supplement to the General Statutes), in the interest of broader service in the Centers; (3) passed a law making cancer a reportable disease (Section 130-289.1), the law to become effective July 1, 1949.

Passing of this law made necessary preparation of: (a) a statement for publication in the North Carolina Medical Journal and of letters to all members of the State Medical Society, explaining the law and re-

questing their cooperation in making it work; and (b) of a cancer reporting card to be used as a punch card. The response of the physicians has been gratifying, and we are learning much about North Carolina's cancers. For instance, from July 1st through December, forty-four lung cancers were reported by private physicians. During the first year, an average of 100 cancers has been reported each month.

Three significant additions to the "screening" program were made during 1949-50. First, the taking of cervical smears to be studied by the Papanicolaou method was undertaken, at the suggestion of the Director of Laboratories, who generously made accommodation for two technicians trained for this work. The routine was initiated at the Durham-Orange Counties Cancer Center on July 15, 1949, and month by month it is being extended. Eventually the cervical smear will be a part of the detection examination of every female examinee. Secondly, through the cooperation of the Tuberculosis Section of the State Board of Health, a special report is made whenever a routine chest film indicates the possibility of malignant disease, primary or secondary. The Director of the Tuberculosis Section estimates that one cancer of the lung is found in every 7,000 or 8,000 chest films. Thirdly, a Schmidt-Helm camera and accompanying X-ray equipment were purchased, for photofluorographic study of the stomach and esophagus. Since 95% of all gastric cancer cases in the 40-and-over age group are diagnosed too late for any but palliative treatment, any practical and speedy method of examining the stomach should be of great value in a mass-screening program. The Schmidt-Helm camera takes seven 70 mm. films in seven minutes, necessitates no undressing, and makes no distressing demands on the examinee other than a fasting period and the drinking of barium. The X-ray and camera have been mounted in a trailer complete with receptionist's desk, sinks, dark room, fans, and heater. The plan is to move the Gastric Cancer Detection Mobile from one Cancer Center to another, thus to make it available to all North Carolinians. Age limit for the Gastric Cancer Survey will be thirty-five, but those younger will be eligible upon referral by their personal physicians.

The continuing assistance of other Divisions of the State Board of Health—those of Epidemiology and Vital Statistics, of Oral Hygiene and Industrial Hygiene, among others—is acknowledged with many thanks.

Two authoritative pamphlets, "Cancer—A Handbook for Dentists" and "Cancer Manual" (for physicians), were made available, upon request, to all members of these professions in North Carolina. The interest in these booklets, as indicated by the response to circular letters enclosing reply cards, was stimulating. 1,300 of the "Cancer Manuals" and 1,000 of the "Cancer—A Handbook for Dentists" have been sent out, and a number of requests for the latter remain unfilled because no further copies are obtainable.

As of February 1st, 1950, the Division of Cancer Control ceased to exist. It became the Cancer Section, one of several Sections in the newly organized Division of Personal Health Service.

Papers and exhibits presented at medical and other scientific meetings during the biennium include:

At the 1948 meeting of the North Carolina Public Health Association, discussion of the Cancer Control Program by Dr. Procter and three of the Cancer Center Directors.

At the 1949 meeting of the North Carolina State Medical Society, talk on the Cancer Control Program by Dr. Procter before the Public Health Section; and continuous showing of the film, "Cancer: The Problem of Early Diagnosis."

At the 1950 meeting of the American Association of Cancer Research, talk entitled "An experiment in the mass screening of a population for cancer, actual and potential" by Dr. Schram.

At the 1950 meeting of the North Carolina State Medical Society, an invitation paper before the Section on Obstetrics and Gynecology, entitled "Methods and Results in the State-County Cancer Centers," by Dr. Cooper and Dr. Schram; continuous showing of the film, "Breast Cancer: The Problem of Early Diagnosis"; exhibit of findings and procedures in the State-County Cancer Centers.

At the 1950 (Fifth) International Cancer Congress, a paper reporting methods and findings in the Cancer Centers, by Dr. Schram.

Also in 1949-50 a number of talks on the Cancer Control Program before County Medical Societies, Cancer Institutes, Nurses, Health Educators, and other groups by Dr. Schram.

No report on the work of the Cancer Section would be complete without recognition of its indebtedness to those who have made its progress possible. And so it is a privilege and a pleasure to record here, on behalf of all those concerned, our deep and abiding appreciation of the splendid cooperation of the Legislature, of the County Medical Societies, of the hospital and health department administrations, and, last but by no means least, of the women of the communities who have given so generously of their time, their thought, and their service to make this program a success.

SUMMARY OF FINDINGS AT 605 CLINIC SESSIONS*

14,654 Examinees—Age and Race Distribution

	<i>White</i>		<i>Negro</i>	
19 and under	146	1.0%	44	0.3%
20 - 29	1,055	7.2%	146	1.0%
30 - 39	2,520	17.2%	293	2.0%
40 - 49	4,207	28.7%	410	2.8%
50 - 59	3,121	21.3%	278	1.9%
60 - 69	1,583	10.8%	176	1.2%
70 - 79	528	3.6%	59	0.4%
80 - 89	58	0.4%	5	0.03%
90 - 99	2	0.02%		
Unknown	15	0.1%	8	0.05%
	13,235	90.32%	1,419	9.68%

446 Cancers—Age and Race Distribution

	White		Negro	
19 and under	1	0.2%	2	0.4%
20 - 29	7	1.6%	4	0.9%
30 - 39	25	5.6%	15	3.4%
40 - 49	62	13.9%	16	3.6%
50 - 59	83	18.6%	15	3.4%
60 - 69	106	23.7%	15	3.4%
70 - 79	70	15.7%	7	1.6%
80 - 89	16	3.6%	1	0.2%
90 - 99	1	0.2%		
	371	83.1%	75	16.9%

Benign Findings

Neoplasms, Benign	2,509
Circulatory System	1,088
Digestive System	761
Male Genital System	233
Breast	603
Female Genital System	3,582
Skin & Cellular Tissues	1,578
Miscellaneous	247

10,601

* Up to April 30th, 1950

Sites of Cancer

Buccal	34	Corpus Uteri	9
Lip	21	Ovary	3
Tongue	3	Unspecified	8
Floor of Mouth	2	G. U. Male	15
Other parts of Mouth	6	Prostate	5
Nasopharynx	2	Testes	1
Digestive System	12	Kidney	1
Stomach	3	Bladder	3
Large Intestine except		Unspecified	5
Rectum	4	Skin	203
Rectum	2	Malignant Melanoma	4
Biliary Passage & Liver	2	Other	199
Liver	1	Miscellaneous	15
Respiratory	7	Eye	4
Nose	3	Bone	1
Larynx	2	Connective Tissue	1
Trachea — Primary	1	Lymph Nodes	1
Lung	1	Lymphosarcoma	1
Breast	61	Leukemia	1
G. U. Female	99	Unspecified	6
Cervix Uteri	79	Total	446

STATE LABORATORY OF HYGIENE, RALEIGH, N. C. BIENNIAL REPORT

July 1, 1948 - June 30, 1950

During the forty-three years that have passed since the State Laboratory of Hygiene was established there have been many changes made in the State as well as in laboratory procedure. The General Assembly of 1907 appropriated the sum of \$2,000 when creating the State Laboratory of Hygiene, specifying that among its duties was the examination of specimens of water and establishing a schedule of fees which water supplies selling water in the State should pay for this service. In spite of many changes in duties the examining of specimens of water has continued through the years. The schedule of fees enacted in 1907 is still in effect. The precedent established in 1907; that the laboratory must be partially self-supporting, has been maintained.

It would take a considerable amount of time to search the records in an effort to determine the part which the laboratory has played in improving the water supplies of the State. To every thinking person, however, it should be apparent that the laboratory played a major role in the marked progress which has been made. The number of water specimens examined increased from 16,981 for the period ending June 30, 1948, to 19,320 for the two-year period ending June 30, 1950. The funds received have remained remarkably constant, being slightly in excess of \$37,000 for both periods. As we glance down the statistical table which is included in this report, we find substantial increases in the volume of work for all activities until we reach serological tests for syphilis. Although typhoid fever—which in the early days of the laboratory was one of the largest public health problems, has decreased almost to the vanishing point, the laboratory actually made more blood cultures for typhoid during the current biennium than it did in the previous one—8,482 as against 7,200. It is significant, however, that in spite of the increased effort we obtained only 36 positive cultures. General blood cultures increased from 1,639 to 1,833 indicating that the medical profession has an increasing appreciation of this type of laboratory service.

The improvement in our local health activities in North Carolina is reflected in the increase of the number of feces and urine cultures from 2,582 to 6,468. Most of these cultures were for the purpose of identifying or checking typhoid carriers.

Agglutination tests—whether for typhoid, rickettsia infections, undulant fever or tularemia, all showed marked increases in number. Apparently the medical profession is becoming increasingly alert in the effort to diagnose infectious mononucleosis. More than five times as many heterophile antibody examinations were made as in the previous biennium.

Even when we get into the field of syphilis serology and find a decided decrease in the number of specimens examined by the State Laboratory,

we need not be alarmed, since the work of the local laboratories in this field has increased and the efforts of our clinicians through the years seem to have decreased the prevalence of syphilis.

During the biennium new services have been offered in the field of Rickettsial Diseases—Complement fixation tests, supplementing the old Weil Felix tests. Previous to this biennium a considerable volume of work was done in connection with complement fixation tests for Rocky Mountain Spotted Fever and Endemic Typhus but this was in connection with surveys and not a routine service available to all physicians in the State.

Diphtheria is becoming less prevalent but it has not decreased to the point where we can relax our efforts to place it under better control. The number of throat cultures examined decreased from 9,150 for the period 1946-48 to 7,622 for the period 1948-50.

The increased fight against tuberculosis is evidenced by the large number—30,155 of specimens of sputum examined in 1948-50 as compared with the 20,688 examined in 1946-48.

Malaria—once distressingly prevalent in North Carolina, has virtually disappeared—only two positive specimens having been found in a two-year period ending in June, 1950, out of 1,900 examinations.

Another change in disease behavior must be noted in connection with rabies. Until about 15 years ago we expected to have great epidemic waves of this disease among the animals of the State. Apparently our law requiring the administration of rabies vaccine to dogs—even though this law is very inadequately enforced, has changed the cycle of prevalence. Almost identical numbers of animal heads were examined during the current biennium—2,113 and 2,030 for the previous biennium.

A marked change in popular interest in Vincent's Angina is brought to light in the current report. Only 6,754 specimens were sent to the laboratory for examination of this disease during the 1948-50 period as against 17,528 for the period ending June 30, 1948.

Specimens to be examined for gonorrhea decreased only slightly during the current biennium.

We have stated on several occasions that the service rendered by the State Laboratory of Hygiene is sufficiently comprehensive to constitute a fairly accurate index of public health activities through the State. The Act of the 1949 General Assembly in making increased funds available for local health work is being reflected in the work of the laboratory. We have already mentioned the increase in the number of feces and urine cultures as an indication of this fact. The number of specimens of feces sent in to be examined for intestinal parasites is another definite indication—the number increased from 23,784 to 30,162. When we reach the discussion of the use of biological products we will have added evidence that our local health departments are increasing their usefulness.

Although Diphtheria Toxoid is less popular than it was previously, there are still sizeable quantities used. When we note the increase in

the amount of diphtheria toxoid combined with pertussis vaccine, the increase in the amount of Tetanus, and the increase in the amount of Triple Antigen; that is, diphtheria and tetanus toxoids combined with pertussis vaccine, we realize that an increased number of children are protected against diphtheria. Our increased protection of children is confirmed by the decreasing amount of diphtheria antitoxin needed to treat those children who develop diphtheria because they were not protected by immunizing.

No significant changes have been made in the volume of smallpox vaccine distributed by the laboratory.

In spite of the decrease in the prevalence of typhoid fever there has been only slight decreases in the volume of typhoid vaccine distributed by the laboratory.

The unchanging rabies problem as evidenced by the number of animal heads examined is also confirmed by the number of antirabic treatments—1,630 being distributed in 1948-50 as compared with 1,615 during 1946-48.

During 1946-48 Pertussis Vaccine as a single antigen has decreased but the number of children protected against whooping cough has actually increased due to the larger amount of diphtheria toxoid and pertussis vaccine used as a combined immunizing agent and the triple antigen to which tetanus toxoid is added.

Other changes which we can note is the discontinuance of the distribution of scarlet fever toxin and bismuth tartrate.

Since Penicillin has practically displaced all other methods of treating syphilis, we have only occasional requests for the arsphenamines.

Influenza vaccine was popular in the period—1944-46. Only a slight amount was distributed in 1946-48, and practically none during 1948-50.

Immune globulin which has proved to be effective when properly administered for the control of measles from a little more than 10,000 packages for the period 1946-48 to more than 45,000 for the period ending June 30, 1950. This product is made available by the American Red Cross without cost to the Laboratory and is distributed free of charge to the physicians and health departments of the State.

Blood plasma was also provided by the American Red Cross and discontinued during the current biennium.

Rocky Mountain Spotted Fever Vaccine which was formerly furnished the Laboratory by the United States Public Health Service and distributed free of charge was also discontinued.

From the financial point of view many of the difficulties which we experienced during the period 1946-48 have decreased during the period 1948-50.

For the products prepared and sold by the State Laboratory of Hygiene we received more than \$58,000 for the period ending June 30, 1950, as

compared with \$62,000 in 1948. For the products bought and sold at cost or below cost we received nearly \$8,000 during the biennium just ended as compared with \$26,000 for the previous period. Influenza vaccine is chiefly responsible for this change in the financial picture and constitutes the principal explanation as to why our receipts for products were some \$22,000 less for the period 1948-50 than they were for the period 1946-48. Since it is one of the products which we bought and sold, the figures represent decreased expenditures as well as decreased income.

The Water Tax provided by the fee schedule which was set up in 1907 has continued a constant and reliable source of revenue and yielded more than \$37,000 in each of the biennial periods.

Specimen containers increased from \$28,000-plus to little more than \$32,000.

The value of surplus animals decreased only slightly.

A new item of revenue was the sale of timber from the State Laboratory of Hygiene Farm. The State Division of Purchase & Contract and the Department of Conservation and Development assisted us in marketing \$5,625 worth of timber and at the same time improved the forest land on this farm.

One fairly reliable index to the services of the laboratory is reflected in the increased cost of postage, telephone, etc.

The decrease in cost of Motor Vehicle Operation may be attributed primarily to the replacement of worn out motor vehicles with new ones.

On June 30, 1950, the Bond Debt of the Laboratory which was incurred in 1937, had been decreased to less than half of the original amount. With each series of bonds retired our interest payments become less and a greater proportion of our annual debt service goes toward the payment of bonds. The year, 1957, will mark the retirement of the last of these building bonds.

The first part of the biennium ending June 30, 1950, contained many personnel problems. The end of the period marked the first time in a period of more than ten years where we could operate for a six month period without a single resignation of laboratory personnel. As this is written, however, we have new problems, including those of personnel, appearing upon the horizon. These problems have a direct connection with the military problems confronting the nation. Prospects are that the Laboratory will have an increased load of work to perform in connection with the mobilization of military forces and at the same time be unable to compete with other employers for the services of competent personnel. Whatever fate befalls we can depend upon a staff which has been loyal, true and tried through the years to render those services which are needed by the State and the Nation.

STATE LABORATORY OF HYGIENE, RALEIGH, N. C.
REPORT OF BIOLOGICALS DISTRIBUTED

The following are prepared in the State Laboratory of Hygiene	July 1, 1948- June 30, 1950	July 1, 1946- June 30, 1948
Diphtheria Toxoid (Alum Precipitated)		
1cc Vials	105	182
10cc Vials	12,485	19,512
Diphtheria Toxoid (Ramon)		
10cc Vials	121	222
Combined Diphtheria Toxoid & Pertussis Vaccine		
10cc Vials	28,082	23,225
Tetanus Toxoid		
10cc Vials	1,069	665
Combined Diphtheria-Tetanus Toxoid		
10cc Vials	1,370	1,970
Triple Antigen		
2cc Vials	95	2
10cc Vials	2,362	183
Schick Tests for Diphtheria		
Tests	98,390	202,230
Schick Control for Diphtheria		
Tests	6,010	10,800
Smallpox Vaccine		
Individual Tubes	213,621	189,915
50 Dose Vials	6,308	7,280
Typhoid Vaccine		
10cc Vials	18,526	22,871
50cc Vials	9,566	6,574
100cc Vials	2,645	4,870
Rabies Treatments	1,630	1,615
Pertussis Vaccine		
Treatments	17,949	29,006
Autogenous Vaccine	147	147
Diphtheria Antitoxin		
1,000 Unit Packages	179	225
10,000 Unit Packages	2,505	16,212
20,000 Unit Packages	2,017	1,963
Tetanus Antitoxin		
1,500 Unit Packages	4,998	3,601
10,000 Unit Packages	—	52
20,000 Unit Packages	145	3
40,000 Unit Packages	—	22

	July 1, 1948- June 30, 1950	July 1, 1946- June 30, 1948
Scarlet Fever Toxin		
1cc Vials	-----	9
10cc Vials	-----	2
Dick Test for Scarlet Fever	975	1,670
Bismuth Tartrate		
20cc Vials	-----	327
Neosarsphenamine & Sulpharsphenamine		
0.4 Gram Ampules	-----	124
0.6 Gram Ampules	9,123	19,842
0.9 Gram Ampules	227	3,644
4.5 Gram Ampules	-----	5
Distilled Water		
10cc Vials	30,671	51,014
Influenza Virus Vaccine		
1cc Vials	-----	2,111
5cc Vials	4	1,514
10cc Vials	-----	2,992

**The following are furnished to the Laboratory by the
American Red Cross and Distributed Free of Charge**

Immune Globulin (For Measles Control)		
cc	45,358	10,064
Blood Plasma		
250cc	11	5,598
500cc	5,595	12,527

**The following are furnished to the Laboratory by the
U. S. P. H. S. and Distributed Free of Charge**

Rocky Mountain Spotted Fever Vaccine		
cc	740	25,109

**STATE LABORATORY OF HYGIENE, RALEIGH, N. C.
REPORT OF EXAMINATIONS MADE**

	July 1, 1948-June 30, 1950		July 1, 1946- June 30, 1948		
	Positive	Negative	Unsatis- factory	Total	Total
Microscopic Examinations					
Diphtheria	668	6,918	36	7,622	9,150
Spinal Fluid				61	289
Tuberculosis (Sputum)	3,397	26,491	267	30,155	20,688
Malaria (Blood Smears) ..	2	1,846	52	1,900	2,145
Rabies (Animal Brains) ..	529	1,435	49	2,013	2,030

July 1, 1946-
July 1, 1948-June 30, 1950 June 30, 1948

	Positive	Negative	Unsatis- factory	Total	Total
Vincent's Angina	1,645	5,109		6,754	17,528
Gonorrhea	2,495	14,755	105	17,355	21,343
Darkfield (Chancre Serum)	5	29	12	46	135
Feces, Intestinal					
Parasites	5,266	24,553	343	30,162	23,784
Cultures for Gonococci	588	3,277	32	3,897	3,174

Animal Inoculations

Tuberculosis				130	101
Rabies				201	446
Miscellaneous				5,909	3,502
TOTALS				914,938	972,973

Water Analyses

Bacterial & Chemical				19,320	16,981
Blood Culture Typhoid	36	7,929	517	8,482	7,200
General Blood Cultures				1,833	1,639
Feces & Urine Cultures	235	6,232	1	6,468	2,582

Agglutination Tests

Macro Typhoid Widal	527	14,253		14,780	8,890
Weil Felix, Reaction	103	17,405		17,508	15,037
Macro, Undulant Fever	114	9,048		9,162	7,526
Tularemia	157	9,015		9,172	5,459
Heterophile Antibody	70	1,468		1,538	363
Serological Tests for Syphilis				718,705	802,981
Mazzini	603,869				
Wassermann, Bloods	98,644				
Wasserman, Spinals	4,128				
Quantitative, VDRL	6,083				
Quantitative, Kline	5,981				

Rickettsial Diseases

Endemic Typhus					
Rat Bloods	213	1,320	152	1,685	
Human Blood	5	33	3	38	
Rocky Mountain					
Spotted Fever	4	27	6	37	
Q Fever		1	1	2	
Rickettsial Pox		2		2	
Eastern Equine					
Encephalomyelitis		1		1	

STATE LABORATORY OF HYGIENE

RECEIPTS

July 1, 1948 - June 30, 1950

Biologicals Prepared in State Laboratory of Hygiene

July 1, 1946-
June 30, 1948

Toxoid	\$37,624.97		
Pertussis Vaccine	8,672.03		
Autogenous Vaccine	648.80		
Silver Nitrate	3,723.74		
Antirabic Treatments	7,364.25		
Media Reagents	32.80	\$ 58,066.59	\$ 62,364.50

Articles Bought and Distributed

Diphtheria Antitoxin	\$ 1,836.15		
Tetanus Antitoxin	2,906.81		
Neoarsphenamine	1,448.98		
Distilled Water	1,560.90		
Dick Test	68.58		
Influenza Virus Vaccine	145.00	\$ 7,966.34	\$ 26,189.45
TOTAL		\$ 66,032.93	\$ 88,553.95

Water Tax	37,613.50	37,104.00
Specimen Outfits	32,039.51	28,893.11
Special Fees	1,107.75	810.50
Miscellaneous	2,369.12	743.27
Animals	2,294.60	2,737.57
Timber	5,625.22	
TOTAL	\$147,082.63	\$158,842.40
Refunds	1,664.41	1,255.60
NET TOTAL	\$145,418.22	\$157,586.80

FINANCIAL STATEMENT

Total Expenditures	\$409,197.57	\$357,888.59
Total Receipts	145,418.22	157,586.80
Appropriation	\$263,779.35	\$200,301.79

**STATE LABORATORY OF HYGIENE
DISBURSEMENTS**

July 1, 1948-June 30, 1950 July 1, 1946-June 30, 1948

Salary—Director	\$ 16,375.00	\$ 11,600.00
Salaries	237,024.61	177,796.43
Supplies and Materials	85,222.23	84,994.05
Postage, Telephone, Etc.	17,371.77	15,319.31
Travel Expense	1,507.97	2,137.26
Printing & Binding	3,131.65	4,063.17
Motor Vehicle Operation	2,398.26	3,056.56
Light, Power, Water	7,222.12	5,382.58
Repair & Alterations	4,782.21	5,109.30
General Expense	414.14	373.84
Insurance & Bonding	123.79	122.80
Equipment	1,580.03	2,759.58
Elevator Maintenance	837.50	770.50
Debt Service	24,740.00	25,180.00
Emergency Salaries		5,009.76
Water Analysis Special	5,250.00	2,500.00
Workman's Compensation	101.45	201.60
Emergency Bonus		9,105.85
Motor Purchase	1,114.84	2,022.60
Accident Claim		383.40
TOTAL	\$409,197.57	\$357,888.59

DIVISION OF EPIDEMIOLOGY BIENNIAL REPORT

July 1, 1948 - June 30, 1950

Following the administrative reorganization of the State Board of Health on February 1, 1950, the following Sections were established in the Division of Epidemiology:

Public Health Statistics Section
Acute Communicable Disease Control Section
Venereal Disease Control Section
Tuberculosis Control Section
Industrial Hygiene Section
Accident Prevention Section

I. PUBLIC HEALTH STATISTICS SECTION

This unit includes the former Bureau of Vital Statistics and the Central Tabulating Unit. Its functions include:

1. Registration of births, deaths, and stillbirths.
2. Collection of communicable disease morbidity reports.
3. Preparation of routine and special vital statistics reports.
4. Issuance of certified copies of birth and death certificates.
5. Miscellaneous statistical service to other divisions.
6. Consultation to local health departments regarding statistical services.

The close of the years 1948 and 1949 revealed total registrations of 108,834 births and 29,909 deaths for the first of these two periods and 103,093 births and 30,675 deaths for the second period. The total stillbirths registered were 2,640 for 1948 and 2,729 for 1949. These figures represent a combined total of 277,880 certificates received and processed for the two-year period.

During the biennium several additional local health officers were appointed registrars of vital statistics for their jurisdictions in lieu of the individual town and township registrars for those same areas. There are now 40 counties served by 31 health officer registrars. In addition, there now remain 654 town and township registrars in the other 60 counties of the state. It is extremely difficult to maintain a maximum level of efficiency in registration with this large number of individuals sending in certificates. The basic policy recommended by most states is that of placing registration in all areas under the direction of the local health departments. This objective is steadily being approached in this state under existing statutory authorization as local health departments become sufficiently well organized to take over these duties.

One field worker is available to make personal contacts with local registrars, physicians, midwives, undertakers, and others throughout the state in order to promote better registration and assist with administra-

tive problems. In this connection, a special leaflet was prepared entitled "How Birth Certificates Are Filed." This will be widely distributed so that the general public will be better informed as to the procedures followed and the method of obtaining necessary services.

A new procedure was instituted as a result of an act of the 1949 General Assembly whereby a copy of every certificate filed outside of the county of residence of the individual would be prepared and forwarded to the county of residence for use by health departments and registers of deeds. In this way, all vital events of residents are known to local officials regardless of the county where the event occurred. This procedure has been of particular value in assisting health department staffs to locate newborn children and families where communicable disease deaths had occurred so that public health services could be rendered, and local vital statistical reports could be prepared without waiting for state publications.

During 1948 and 1949 there was received a total of 82,837 communicable disease reports. These were processed to avoid duplication and from them were prepared daily summaries for use by staff members in evaluating the communicable disease situation in the state at all times.

Monthly mimeographed vital statistics and morbidity reports are prepared showing appropriate information, by county and city, for use by local health departments. The printed annual reports of vital statistics for the years 1947 and 1948 were released during the biennium. The annual morbidity report for 1947 was mimeographed as had been all previous issues of this report. The 1948 annual morbidity report was completely revised as to content so that health officials and others would have in more convenient form summaries of information for all preceding years for which it was available. This report was printed instead of being mimeographed.

Many requests for special statistical information have been filled, numbering approximately 500 written and an equal or greater number by telephone and to visitors.

For the report period there were issued 43,401 certified copies of birth and death certificates for which a fee was charged and 9,048 copies required to be issued free under existing laws. Incomplete certifications or verifications of registration, for which no fee was required, were issued, totaling approximately 33,000.

The service rendered by the Certification Unit has been greatly improved through the further progress made toward completion of a new card index. Certificates have been filed in this state since 1913. Reindexing has now been completed for all certificates received since that date except for the period 1923 through 1926. This has involved the preparation and processing of over 1,889,000 birth certificate punch cards.

The statistical personnel and Tabulating Unit prepare the following routine reports for the Division of Epidemiology and for other divisions of the State Board of Health:

MONTHLY:

Report of reportable communicable diseases, excluding venereal diseases

Report of reportable venereal diseases

PHS-688(VD)—Monthly Morbidity Report of Venereal Diseases (to USPHS)

Dispositions of Venereal Disease Contact Investigation for Reporting Agencies

Wake County Venereal Disease Reports (Special Project):

- (1) Contacts obtained
- (2) Contact Investigations completed
- (3) Venereal disease morbidity and contact report
- (4) Contacts reported to Wake County
- (5) Contacts obtained by Wake County
- (6) Rapid Treatment Center admissions from Wake County
- (7) Wake County referrals to Rapid Treatment Center
- (8) All venereal disease cases reported by Wake County

Cancer Tables:

- (1) Findings
- (2) Dispositions
- (3) Procedures
- (4) Recommendations
- (5) Diagnoses

Investigator and Interviewer Reports:

- (1) Interviewers' Case Finding—Tabular
- (2) Interviewers' Case Finding—List
- (3) Results of Investigation of Interviewers' Cases
- (4) Results of All Venereal Disease Investigations

Births-Deaths File Time Chart

Births-Deaths File Time Tabulation

Color Summary of Births, Deaths, Infant Deaths

Birth index received 1950 occurrence—1950

Birth index received 1950 occurrence—1949

Birth index received 1950 occurrence—1948

Death index received 1950 occurrence—1950

Death index received 1950 occurrence—1949

Death index received 1950 occurrence—1948

Chatham, Orange, Person birth and death index

Monthly report of resident births and deaths

Veterans' death listing, resident and nonresident

Accident deaths, nonmotor vehicle

Premature birth listing

QUARTERLY:

State and County Venereal Disease Morbidity and Contact Report
Epidemiological Evaluation

Open case letter to health officers

Contact investigations completed
Contacts obtained by clinics, rapid treatment centers, and others
Health department clinic admissions, by county
Rapid treatment center admissions, by county of referral
Other report source admissions by county
Birth index
Death index
Interviewer and Investigator same as monthly reports 1-4

SEMI-ANNUAL:

Tuberculosis report
Vital Statistics payroll registrars' listing
Contact investigation report for U. S. Public Health Service

ANNUAL:

Annual report of all reportable diseases, excluding venereal diseases
(mimeographed)
Annual report of reportable venereal diseases (mimeographed)
Annual report of resident births and deaths (mimeographed)
Birth index
Death index
Annual report of morbidity statistics
Annual report of vital statistics

BIENNIAL

Local Health Statistical Report

In addition to the above, the facilities of the Tabulating Unit are used to address pamphlets being mailed to a selected group of parents of newborn children as part of the program of the Mental Hygiene Section of the Division of Local Health Administration.

II. ACUTE COMMUNICABLE DISEASE SECTION

At the start of the biennium, the state was involved in its worst poliomyelitis epidemic on record. There were 2,516 reported cases and 143 deaths. One of the most unusual features of this outbreak was that the centers of highest incidence were within the same general area of the west central part of the state as that involved in 1944 when the largest previous outbreak occurred, totaling 878 cases.

The facilities of the Division were taxed to the utmost in supplying information to health departments and private physicians in this state, and the state health agencies of other states, as well as to the general public. Assistance was given in the planning of local health department policies and in cooperating with the National Foundation for Infantile Paralysis in facilitating medical care.

During the report period the communicable disease incidence of the state with respect to other diseases was generally favorable. Diphtheria cases reached a record low in 1948 and whooping cough and malaria reached a record low level in 1949. Also, for the first time in the history of the state a full year (1949) passed without the reporting of a case of smallpox.

Rocky Mountain spotted fever cases, although still relatively few in number, have shown a slight upward trend in the past few years with no definite change in that trend in 1948 and 1949. Undulant fever also increased slightly. The 1946-48 average undulant fever morbidity rate for the United States was 3.9 cases per 100,000. For the same period, the average North Carolina rate was 0.4, the lowest of all the states, seven of which had rates over 10 and two over 20. A considerable problem is presented in protecting this state from importation of this infection from the rest of the country by means of incoming cattle and hogs.

Syphilis cases have shown a remarkable decline in the last year, from 8,724 in 1947 to 6,699 in 1949. This decline was limited to acquired syphilis and occurred primarily in the early infectious stages. Unfortunately, congenital syphilis has not declined satisfactorily, thereby indicating that more attention must be given to the prenatal blood testing program and the prompt treatment of infected mothers. A field study is being sponsored at the School of Public Health of the University of North Carolina to determine methods of finding congenital syphilis cases and the prevention of this infection.

In addition to interpreting the morbidity and mortality statistical data in terms of changes that might be recommended in state and local public health activities, the Section carried out various other functions as follows:

Interpretations were made for local officials regarding the communicable disease regulations and one revision prepared for adoption by the Board. Promotion of state-wide control of various communicable diseases was carried out by consultation with local health officers, releasing literature, preparing articles and special reports. Field investigations were made in cases of suspected psittacosis and glanders, in an outbreak of influenza, and in an area of suspected increase in the incidence of undulant fever.

The state typhoid carrier register was used in promoting protection of the public from these individuals, now numbering 76.

III. VENEREAL DISEASE CONTROL SECTION

This Section operates the two medical centers located in Charlotte and Durham, where venereal disease patients are referred for treatment by local health departments and private physicians.

The efforts of local health departments in interviewing patients to determine contacts and in the investigation of contacts for referral to the medical centers or to private physicians were greatly supplemented by a special case-finding project of the U. S. Public Health Service under which funds were provided to employ sixteen male college graduates who received special training in interviewing techniques and public health procedures, and who were placed in strategically located health departments. In addition, two colored male health educator-investigators were employed on an experimental basis as a special federally financed project, with good results.

Arrangements were made with the State Prison for inmates with a venereal disease to be interviewed so that their contacts can be investigated and brought to treatment if infected.

The treatment schedules using penicillin have continued to prove extremely effective and have become steadily shorter so that preparations are being made to treat an increasing number of patients in local clinics rather than to require admission to a medical center. This drug is also being made available free to private physicians for treatment of venereal disease patients.

Training courses in venereal disease control have been conducted for health officers, nurses, and contact investigators at the medical centers frequently.

NORTH CAROLINA VENEREAL DISEASE CLINIC ADMISSIONS

	Syphilis		Gonor- rhea	Other Venereal Diseases
	Early	All Other		
Cases Admitted to Clinics:				
Previously untreated	8,627	2,537	29,936	976
Previously treated	1,388	1,248	850	58
Referred to Rapid Treatment Center (treated and untreated)	8,682	3,517	868	725
				Totals
Sexual contacts from previously untreated cases	10,858	376	21,939	34,370
Civilian contacts reported for investigation	25,961	1,714	24,157	53,611
Contacts examined	16,879	1,172	16,594	35,778
Found infected	7,356	406	9,841	17,759
Found not infected	9,523	766	6,753	18,019

IV. TUBERCULOSIS CONTROL SECTION

ORGANIZATION:

The Tuberculosis Control Section of the State Board of Health emphasizes case-finding and home follow-up, and is one of the agencies in our state government which has to do with tuberculosis control as a whole.

Those agencies which are concerned with tuberculosis control and which are units of the State Board of Health are:

1. Division of Local Health Administration
2. Division of Epidemiology, Public Health Statistics Section
3. State Laboratory of Hygiene
4. Division of Epidemiology, Tuberculosis Control Section

Other state agencies which are included in the general tuberculosis program and which are not under the control of the State Board of Health are:

1. Department of Public Instruction, concerned with vocational rehabilitation.
2. State Board of Public Welfare, concerned with the protection of families of patients against economic distress by cooperation with county welfare agencies.
3. The Sanatoria Board, which controls the State Tuberculosis Sanatoria.

The Division of Epidemiology, Tuberculosis Control Section, and the Central Sanatorium at McCain cooperate in case-finding, one agency being under the control of the State Board of Health and the other under the control of the Sanatoria Board.

The Tuberculosis Control Section operates mobile x-ray units in the field and makes the first contact with those persons who desire x-rays of the chest. The 70 mm. film which is taken by our field units is interpreted at the central office in Raleigh.

Those persons who require a larger film to confirm the tentative diagnosis have large films made at the site of the survey, and the large film is forwarded to the Central Sanatorium for diagnosis. The final diagnosis is furnished the local health officer, who, in turn, transmits this information to the patient's physician or to the patient himself.

BUDGET:

The 1948-1949 budget was \$328,724 and of this amount \$305,844 was grant-in-aid funds from the Federal Government and \$22,880 from the State funds. Of these funds, \$123,121 was allocated to counties.

The 1949-1950 budget was \$307,849, and of this amount \$280,513 was grant-in-aid funds from the Federal Government and \$27,336 from State funds. Of these funds, \$100,000 was allocated to counties for tuberculosis control.

EQUIPMENT AND PERSONNEL:

From July 1, 1948, until June 30, 1949, the Section operated seven mobile x-ray units, and in July an eighth unit was placed in operation. The Section also owns an x-ray unit which is installed in the receiving section of Duke Hospital, Durham. This unit generally takes over 15,000 x-ray pictures a year. The unit has proved to be a valuable case-finding measure, and during the period of this report 3.6 per cent of persons x-rayed were found to have had findings characteristic of minimal, moderate, or far advanced pulmonary tuberculosis. This unit has been in operation since January 1, 1948.

In addition to the eight x-ray units, this Section owns two generators, a portable x-ray unit, eight tractors, one Chevrolet carry-all, and other necessary accessories.

Personnel consists of two doctors, one senior stenographer clerk acting as chief clerk in the central office, one junior general clerk, and one junior stenographer clerk in the central office, two health educators, one part-time consultant nurse, fourteen x-ray technicians, and four other persons, or a total of nineteen persons in the field, six in the central office at Raleigh, and one clerk at the McCain Sanatorium who assists in processing records pertaining to the follow-up activities conducted by the Sanatorium.

ACTIVITIES DURING JULY 1, 1948-JUNE 30, 1950:

Mass county surveys and special surveys were carried out in health department jurisdictions, and other places listed in this report. The number of 70 mm. films taken is noted opposite the area surveyed.

Some schools and colleges were surveyed by special request. Others are routinely surveyed if requested by local authorities during the mass surveys of a county where schools and colleges are located. Those schools and colleges listed were surveyed by special request.

GENERAL COMMENT:

Emphasis is being placed on follow-up activities, and a technician and clerk are required to remain in the area after the regular survey has been completed for the purpose of completing follow-up x-rays and administrative duties incident to the survey. It is our policy to have this personnel remain in the area until at least 85 per cent of persons recalled for re-examination have been x-rayed.

The Section operates two x-ray units from the central office for the purpose of carrying out special surveys. Such surveys consist of x-ray examination of food handlers, industrial workers, colleges, teachers, school children, state institutions, also conducting itinerant clinics and surveys of short duration of the general population, as requested by local health officers.

Mass chest x-ray surveys have been scheduled for 1950, 1951, and sixteen counties have been scheduled, beginning January, 1952. A total of eighty-nine counties will have been surveyed when this schedule has been completed. At this time there are only six counties that have not requested surveys. These six counties are Madison, Iredell, Scotland, Caswell, Pamlico, and Dare. At this time, thirteen counties are conducting surveys through their local health departments.

Five counties, previously surveyed, have been scheduled for resurvey. These counties are Halifax, Edgecombe, Gaston, Johnston, and Martin.

Some authorities have questioned the value of mass chest x-ray surveys as a case-finding procedure. In one populous area outside North Carolina, it has been reported that mass x-ray surveys were responsible for discovering only 3.4 per cent of the new cases in 1947 when 500,000 x-rays were made during mass surveys in that year in the area. In North Carolina during 1940-1944, preceding the advent of mass surveys, 9,848 new cases of tuberculosis were reported to the State Board of Health.

This is an average of 1,970 cases per year. For the five years 1945-1949, since mass surveys have been conducted, 17,125 new cases or an annual average of 3,425 new cases have been reported. This is a 73.9 per cent increase in total cases reported.

As further proof of the value of mass chest x-ray surveys, an evaluation was made of 450,615 persons who were x-rayed in thirty-one counties. For the six-months period prior to the surveys, 327 new cases were reported, and for the six-months period immediately following the survey, 1,233 cases were reported, nearly four times as many cases.

This increase in the number of new cases has come at a time when deaths from tuberculosis have reached a new low.

To date, approximately one per cent of the cases x-rayed have been found to have reinfection tuberculosis.

During 1948-1950, mass surveys have been completed in thirty-seven counties and special and partial surveys carried out in counties listed in this report.

SPECIAL SURVEYS OF GENERAL POPULATION

LOCATION	Total Project Films	Definite TB		Suspicious TB		Other Pathology	
		No.	Per 1000	No.	Per 1000	No.	Per 1000
Wake County September 1948.....	4,873	13	2.7	312	64.0	12	2.5
Tyrrell County.....	1,001	5	5.0	24	24.0	10	10.0
Washington County.....	2,023	8	4.0	32	15.8	32	15.8
Harnett County.....	8,938	37	4.1	314	35.1	39	4.4
Johnston County.....	4,053	11	2.7	196	48.4	44	10.9
Guilford County.....	3,022	13	4.3	120	39.7	40	13.2
Hyde County.....	435	2	4.6	127	292.0	7	16.1
Cherokee-Clay-Graham.....	2,583	16	6.2	122	47.2	18	7.0
TOTALS.....	26,928	105	3.9	1,247	46.3	202	7.5

DUKE HOSPITAL AND THE TWO MEDICAL CENTERS

Duke Hospital July 1—December 31, 1948.....	7,596	296	39.0	293	38.6	873	114.9
Duke Hospital Year 1949.....	15,261	587	38.5	754	49.4	2,688	176.1
Duke Hospital January 1—June 30, 1950.....	7,311	205	28.0	216	29.5	1,223	167.3
Western Medical Center July—December 1949.....	514	1	1.9	0	0.0	0	0.0
Eastern Medical Center 1949.....	3,466	4	1.2	40	11.5	237	68.4
Western Medical Center and Eastern Combined January—June 1950.....	2,000	5	2.5	9	4.5	151	75.5
TOTALS.....	36,148	1,098	30.4	1,312	36.3	5,172	143.1
GRAND TOTALS.....	529,945	3,382	6.4	16,384	30.9	8,350	15.8

TABLE NO. 1-A—Data on Full-Time County, District, and City Health Services—North Carolina—Fiscal Year 1948-49

COUNTY, CITY OR DISTRICT	1940 Popula- tion	Date Organized	Total Budget		Source of Funds and Amounts							Full-Time Personnel					
			Amount	Per Cap.	State V. D. and State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H. O.	Other Med. Officer	PHN	Sant.	Clerk Other	Dent. Wks.	
Alamance.....	57,427	1938	\$ 40,270.00	.701	\$ 4,080	.071	\$ 30,790.00	.536	\$ 5,400	.094	1	-----	3s	2	3ed	14	
Alleghany-Ashe-Watauga.....	49,119	1935-38	29,117.60	.593	6,000	.122	14,487.60	.295	8,630	.176	1	-----	3	2	3	22	
Anson-Montgomery.....	44,723	1938-42	33,343.71	.746	6,540	.146	20,593.71	.460	6,210	.139	-----	-----	4	2	3	5	
Avery-Mitchell-Yancey.....	46,743	1935-44-35	27,669.44	.592	5,920	.127	11,289.44	.242	10,460	.224	1	-----	3	1	3	9	
Beaufort.....	36,431	1923	25,690.00	.705	3,360	.092	17,220.00	.473	5,110	.140	-----	-----	2	2i	1	5	
Bertie-Chowan.....	37,773	1934-37	28,169.69	.746	5,100	.135	16,439.69	.435	6,630	.176	1	-----	2	1	1	23	
Bladen.....	27,156	1921	17,637.27	.649	3,000	.110	9,787.27	.360	4,850	.179	1	-----	2	1	1	-----	
Buncombe (Ex. A.).....	57,445	1913	32,430.00	.565	2,040	.036	26,700.00	.465	3,690	.064	1	-----	2	3	2	10	
Burke-Caldwell-McDowell.....	97,406	1937-45	48,918.63	.502	9,300	.095	30,168.63	.310	9,450	.097	1	-----	6	4i	3	40	
Cabarrus.....	59,393	1919	68,814.35	1.159	5,040	.085	52,064.35	.877	11,710	.197	1	-----	6st	5i	4ed	15	
Carteret.....	18,284	1941	21,918.51	1.199	3,040	.166	14,328.51	.784	4,550	.249	1	-----	2	1	1	12	
Catawba-Lincoln-Alex.....	89,294	1938-40-47	94,530.83	1.059	8,200	.092	71,240.83	.798	15,090	.169	1	-----	8s	7	10ed,b	31	
Cherokee-Clay-Graham.....	31,636	1937-36	30,209.81	.955	6,680	.211	12,923.81	.409	10,606	.335	1	-----	4	2	3	14	
Cleveland.....	58,055	1938	33,215.00	.572	4,880	.084	22,985.00	.396	5,350	.092	1	-----	3	3i	2	7	
Columbus.....	45,663	1921	22,865.00	.501	3,660	.080	14,435.00	.316	4,770	.104	1	-----	2	1	2	20	
Craven.....	31,298	1921	39,230.39	1.253	4,140	.132	26,480.39	.846	8,610	.275	1	-----	4s	2	4b	9	
Cumberland.....	59,320	1919	60,658.05	1.023	9,280	.156	35,603.05	.600	15,775	.266	1	-----	8s	4i	5t	9	
Cumtuck-Dare.....	12,750	1937-38	20,230.14	1.587	4,900	.384	7,780.14	.610	7,550	.592	-----	-----	2	1	2	10	
Davidson.....	53,377	1917	35,555.00	.666	3,860	.072	21,775.00	.408	9,920	.186	1	-----	2	2	3b	14	
Davie-Stokes-Yadkin.....	58,222	1938-31	30,840.77	.530	6,000	.103	15,690.77	.269	9,150	.157	1	-----	5	1	2	-----	
Duplin.....	39,739	1934	26,295.00	.662	3,180	.080	18,465.00	.465	4,650	.117	1	-----	3	1	2	9	
Durham.....	80,244	1913	170,390.96	2.123	8,880	.111	143,010.96	1.782	18,500	.231	2	-----	17sst	9i	20d,b,t	20	
Edgecombe (Ex. R. M.).....	36,762	1919	53,745.09	1.462	3,840	.104	41,745.09	1.136	8,160	.222	1	-----	4	3i	3	20	
Forsyth-Winston-Salem.....	126,475	1913	171,485.00	1.356	9,780	.077	147,155.00	1.164	14,550	.115	3	-----	19s	10i	16v,b	-----	
Franklin.....	30,382	1930	17,426.84	.574	2,880	.095	10,946.84	.360	3,600	.118	1	-----	2	1	1	-----	
Gaston.....	87,531	1928	109,080.00	1.246	5,640	.064	94,870.00	1.054	8,500	.098	1	-----	8	5i	4t	14	
Granville.....	29,344	1919	27,899.86	.951	3,360	.115	20,089.86	.684	4,470	.152	-----	-----	4	2i	2	14	
Greene.....	18,548	1937	18,471.74	.996	2,460	.133	12,021.74	.648	3,990	.215	1	-----	2	1	1	14	
Guilford (Ex. G. & H. P.).....	56,102	1911	39,840.00	.710	2,040	.036	35,850.00	.639	1,950	.035	1	-----	4	2	2ed	23	

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918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TABLE NO. 1-A—Continued.

	1940 Popula- tion	Date Organized	Total Budget		Source of Funds and Amounts						Full-Time Personnel					
			Amount	Per Cap.	State V.D. and State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H. O.	Other Med. Officer	PHN	Sant.	Clerk Other	Dent. Wks.
COUNTY, CITY OR DISTRICT	51,310	1923	\$ 118,629.00	2.312	\$ 7,440	.145	\$ 98,739.00	1.924	\$ 12,450	.243	1	1	11s	6iv	14b,t,ed	14
	100,899	1918	274,612.50	2.722	9,480	.094	253,282.50	2.510	11,850	.117	3		26s,4s	15i	27d,b,t, ed,v	
	59,319	1923	89,296.00	1.505	7,140	.120	69,506.00	1.172	12,650	.213	1		11s	6i	7b,ed	
	38,495	1937	59,395.00	1.543	2,700	.070	48,325.00	1.255	8,370	.217	1		8	3i	3t	20
	25,568		45,340.00	1.773	2,280	.089	36,310.00	1.420	6,750	.264			4	2	6b	14
	275,591		\$ 587,272.50	2.131	\$ 29,040	.105	\$ 506,162.50	1.837	\$ 52,070	.189	6	1	60	32	57	48
	3,511,344		\$3,393,391.18	.966	\$ 350,000	.100	\$2,467,860.18	.703	\$ 575,531	.164	66	1	360	188	270	765
GRAND TOTAL.....																

Ex.—Exclusive of:

A.—Asheville
C.—Charlotte
G.—Greensboro
H. P.—High Point
R. M.—Rocky Mount

e—Epidemiologist
s—Supervising Nurse
i—P. H. Investigator
d—Dentist
b—Bacteriologist
t—Technician
ed—Health Educator
n—Nutritionist
v—Veterinarian
st—Supervising trainee nurse

MASS CHEST X-RAY SURVEYS

LOCATION	Total Project Films	Definite TB (J)		Suspicious TB (S)		Other Pathology (O)	
		No.	Per 1000	No.	Per 1000	No.	Per 1000
¹ Johnston County (July Portion).....	252	72	3.8	388	20.7	117	6.2
² Duplin County (July Portion).....	7,879	65	4.8	331	24.7	78	5.8
Haywood-Jackson-Macon-Swain.....	25,769	147	5.7	556	21.6	93	3.6
Burke-Caldwell-McDowell.....	35,285	304	8.6	1,478	41.9	73	2.1
Rutherford-Polk.....	19,206	137	7.1	320	16.7	35	1.8
Rowan County.....	30,270	109	3.6	432	14.3	83	2.7
Carteret County.....	7,766	18	2.3	88	11.3	20	2.6
Craven County.....	23,708	61	2.6	232	9.8	88	3.7
Northampton County.....	12,697	89	7.0	470	37.0	90	7.1
Beaufort County.....	19,714	124	6.3	620	31.4	310	15.7
Hyde County.....	3,080	19	6.2	136	44.2	40	13.0
Pitt County.....	28,786	174	6.0	680	23.6	266	9.2
Randolph County.....	21,069	35	1.7	338	16.0	88	4.2
Moore-Hoke.....	17,966	33	1.8	338	18.8	129	7.2
³ Davidson County.....	6,965	15	2.2	201	28.9	35	5.0
⁴ Alleghany-Ashe-Watauga.....	8,271	12	1.5	195	23.6	18	2.2
Davie-Stokes-Yadkin.....	14,698	38	2.6	465	31.6	115	7.8
Pasquotank-Perquimans-Camden- Chowan.....	19,582	45	2.3	931	47.5	169	8.6
Currituck County.....	1,502	5	3.3	73	48.6	14	9.3
Hertford-Gates.....	13,806	45	3.3	568	41.1	141	10.2
Tyrrell-Washington.....	6,072	9	1.5	329	54.2	47	7.7
Lenoir-Jones.....	26,426	123	4.7	929	35.2	184	7.0
Onslow-Pender.....	15,354	75	4.9	522	34.0	92	6.0
Robeson County.....	36,676	164	4.5	1,725	47.0	417	11.4
TOTALS.....	402,799	1,918	4.8	12,345	30.6	2,742	6.8

¹⁻²TSO figures for Duplin and Johnston Counties represent entire surveys which were carried out in May, June, and July, 1948.

³Survey incomplete—to be resurveyed.

⁴To be resurveyed in 1951.

STATE INSTITUTIONS SURVEYED

LOCATION	Total Project Films	Definite TB		Suspicious TB		Other Pathology	
		No.	Per 1000	No.	Per 1000	No.	Per 1000
N. C. School for Blind and Deaf White Section only—1948.....	305	0	0.0	17	55.7	0	0.0
State Hospital—Raleigh.....	2,562	37	14.4	68	26.5	9	3.5
Caswell Training School.....	1,044	16	15.3	33	31.6	5	4.8
Butner Mental Hospital.....	1,935	11	5.7	55	28.4	8	4.1
Eastern Carolina Training School.....	356	0	0.0	7	19.7	2	5.6
N. C. School for Blind and Deaf Colored Section only—1950.....	587	0	0.0	8	13.6	3	5.1
State Hospital Goldsboro.....	2,860	42	14.7	136	47.6	12	4.2
TOTALS.....	9,649	106	11.0	324	33.6	39	4.0

TABLE NO. 1-B—Data on Full-Time County, District, and City Health Services—North Carolina—Fiscal Year 1949-50

County, City or District	1940 Population	Date Organized	Total Budget		Source of Funds and Amounts						Full-Time Personnel					
			Amount	Per Cap.	State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H. O.	Other Med. Officer	PHN	Sant.	Clerk Other	Dent. Wks.
Alamance.....	57,427	1938	\$ 56,062.50	.976	\$ 14,071	.245	\$ 35,217.50	.613	\$ 6,774	.118	1	---	7s	3	3ed	20
Alleghany-Ashe-Watauga.....	49,119	1938-35	39,276.99	.800	19,504	.397	13,192.99	.269	6,580	.134	---	---	4	2	3	40
Anson-Montgomery.....	44,723	1938-42	43,512.75	.973	15,553	.348	21,248.75	.475	9,711	.150	---	---	7	2	3	20
Avery-Mitchell-Yancey.....	46,743	1935-44-35	39,152.54	.837	20,215	.432	10,903.54	.233	8,034	.172	1	---	4	2	3	30
Beaufort.....	36,431	1923	33,240.00	.913	9,855	.271	18,520.00	.508	4,865	.134	---	---	4	1	2	10
Bertie.....	26,201	1934	22,057.90	.842	8,111	.310	10,212.90	.380	3,734	.142	---	---	2	1	1	20
Bladen.....	27,156	1921	24,477.77	.901	9,131	.336	10,863.77	.400	4,483	.165	1	---	3	1	1	20
Brunswick.....	17,125	1949	15,991.19	.934	7,444	.435	4,611.19	.269	3,936	.230	---	---	2	1	1	10
Buncombe (Ex. A.).....	57,445	1913	60,773.00	1.058	12,822	.223	43,669.00	.760	4,282	.075	1	---	6	3	4ed	20
Burke-Caldwell.....	74,410	1937	55,197.59	.742	24,152	.325	19,747.59	.265	11,298	.152	1	---	5	2	2	40
Cabarrus.....	59,393	1919	77,349.00	1.303	16,919	.285	52,004.00	.877	8,366	.141	1	---	12	5i	4ed	20
Camet.....	18,284	1941	23,912.28	1.308	7,375	.403	13,833.28	.757	2,704	.148	1	---	2	1	1	20
Catawba-Lincoln-Alex.....	89,294	1938-40-47	115,913.62	1.298	29,565	.331	74,536.62	.835	11,812	.132	1	---	11s	7	7b	60
Cherokee-Clay-Graham.....	31,636	1937	37,769.98	1.194	17,374	.549	8,403.98	.266	11,992	.379	1	---	3	2	3	20
Cleveland.....	58,055	1938	50,308.17	.867	15,387	.265	27,208.17	.469	7,713	.133	1	---	6	4i	3t	20
Columbus.....	45,683	1921	37,000.82	.810	13,973	.306	15,925.82	.349	7,102	.155	1	---	3	2	2	20
Craven.....	31,298	1921	47,523.02	1.519	11,205	.358	30,638.02	.960	6,285	.201	---	---	4s	2	3b	10
Cumberland.....	59,320	1919	81,500.44	1.374	26,123*	.440	43,689.44	.737	11,688	.197	1	---	9s	5i	5t	20
Currituck.....	12,750	1938-37	24,912.18	1.954	14,266	1.119	8,954.18	.702	1,692	.133	---	---	2	1	2	10
Davidson.....	53,377	1917	44,085.00	.826	13,342	.250	23,323.00	.437	7,420	.139	1	---	3	4	2b	30
Davie-Stokes-Yadkin.....	58,222	1938-31	48,542.27	.834	21,640	.372	19,700.27	.339	7,142	.123	---	---	7	2	2	20
Duplin.....	39,739	1934	35,912.00	.904	11,158	.281	19,465.00	.490	5,289	.133	1	---	6	1	2	20
Durham.....	80,244	1913	179,772.48	.240	23,946*	.298	144,264.48	1.798	11,562	.144	1	1	18sst	10i	13b,t,d	20
Edgecombe (Ex. R. M.).....	36,762	1919	55,529.95	1.511	10,018	.273	41,085.95	1.118	4,426	.120	1	---	5	4i	3	20
Forsyth-Winston-Salem.....	126,475	1913	198,599.00	1.571	33,246*	.263	148,939.00	1.178	16,414	.130	1	2	21s	12v,i	12b	20
Franklin.....	30,382	1930	27,482.47	.905	9,262	.305	13,946.47	.459	4,274	.141	1	---	3	1	1	20
Gaston.....	87,531	1928	134,449.00	1.536	24,550	.280	94,870.00	1.084	15,029	.172	1	1e	11	7i	4t	20
Granville.....	29,344	1919	37,462.66	1.277	9,303	.317	24,026.66	.819	4,133	.141	1	---	4	2i	1	20
Greene.....	15,548	1937	22,860.50	1.233	7,036	.379	13,624.50	.735	2,290	.119	1	---	3s	1	1	20

Guilford	153,916	1911	274,252.00	1,782	36,291	236	218,744.00	1,421	19,227	.125	1	2	27sst	141,b	144ed, b,t	20
Halifax	56,512	1919	73,466.43	1,300	16,517*	292	48,686.43	.862	8,263	.146	1	---	8	3	56ed	20
Harnett	44,239	1936	43,358.06	.980	13,401	303	24,060.00	.544	5,897	.133	1	---	5	1	2	50
Haywood-Jackson-M-S	82,227	1934-36	75,374.40	.916	30,011	.372	27,083.40	.829	17,680	.215	1	---	8s	5	6t	50
Henderson-Tennessee	38,290	1947-37	33,036.47	.878	14,377	.375	14,414.47	.376	4,845	.127	1	---	4	2	2	20
Hertford-Gates	29,412	1936-40	31,408.32	1.068	13,018	.443	13,816.32	.470	4,574	.155	---	---	4	2i	2	20
Hyde	7,860	1937	9,176.00	1.168	4,581	.583	3,160.00	.462	1,485	.183	---	---	1	1	1	10
Iredell	50,424	1942	41,031.05	.826	12,768	.253	20,757.05	.412	8,106	.161	1	---	6s	3	3	10
Johnston	63,798	1937	42,881.59	.672	14,729	.231	20,921.59	.328	7,231	.116	1	---	5s	2	1	20
Jones	10,926	1949	12,769.41	1.163	5,684	.520	5,107.41	.467	1,918	.176	1	---	1	1	1	10
Lenoir	41,211	1917	40,060.02	.972	12,132	.294	21,678.02	.526	6,250	.152	1	---	4	2	2	10
McDowell	22,966	1949	21,300.00	.926	8,555	.372	9,293.00	.404	3,452	.150	1	---	---	1	1	10
Madison	22,522	1949	15,722.00	.698	7,734	.343	5,295.00	.235	2,663	.120	---	---	2	1	1	20
Martin	26,111	1937	29,331.11	1.123	9,176	.351	16,792.11	.613	3,363	.129	1	---	2	1	1	20
Mecklenburg (Ex. C.)	50,927	1918	75,238.00	1.477	11,744	.231	57,822.00	1.135	5,672	.111	1	---	1	8	6	20
Moore-Hoke	45,906	1928-43	45,334.00	.992	16,710	.364	22,280.00	.485	6,541	.143	1	---	6	2	3	30
Nash (Ex. R. M.)	42,440	1915	35,598.00	.838	11,727	.276	18,308.00	.431	5,568	.131	1	---	4	2i	1	20
New Hanover	47,935	1913	114,039.29	2.379	16,006	.334	87,196.29	1.819	10,837	.226	1	---	17s	7	10b	20
Northampton	28,299	1917	30,708.13	1.085	10,063	.356	15,455.13	.546	5,190	.183	1	---	3	1	1	20
Onslow-Pender	35,649	1941	45,584.14	1.278	14,950	.419	19,647.14	.551	10,987	.308	1	---	6	2	3	10
Orange-Person-C-Lee	91,570	1935-37-46	108,867.79	1.189	39,691*	.433	56,929.79	.622	12,247	.131	1	---	15s	4	7ed	40
Pamlico	9,706	1949	14,270.00	1.471	5,481	.565	6,850.00	.706	1,939	.200	---	---	---	1	1	10
Pasquotank-P-C-Chowan	47,333	42-43-43-37	67,600.87	1.427	23,128	.488	37,237.87	.786	7,235	.153	1	---	9s	3	7t	40
Pitt	61,244	1917	58,033.40	.947	16,658	.272	33,069.40	.540	8,276	.135	1	---	8	3i	3	20
Randolph	44,554	1927	37,296.78	.837	11,854	.266	19,006.78	.427	6,436	.144	1	---	4	2	2ed	20
Richmond	36,810	1924	38,592.00	1.048	10,584	.288	22,580.00	.613	5,428	.147	1	---	4	3i	2ed	20
Robeson	76,860	1912	56,142.00	.731	20,821	.271	23,830.00	.310	11,491	.150	1	---	6s	3i	2	20
Rockingham-Cuswell	77,930	1940-44	76,065.78	.976	23,303	.299	42,407.78	.544	10,355	.133	1	---	7s	4	5ed	30
Rowan	69,206	1918	54,582.00	.789	16,428	.237	30,982.00	.448	7,172	.104	1	---	7s	2	2ed	30
Rutherford-Polk	57,451	1924-38	45,750.09	.797	17,334	.302	20,532.00	.363	7,554	.132	1	---	4	2	3ed	30
Sampson	47,440	1913	38,748.80	.817	12,535	.264	19,577.80	.413	6,636	.140	---	---	4	1	2	10
Scotland	23,232	1943	29,626.00	1.275	8,874	.382	16,364.00	.704	4,388	.189	1	---	4	1	2ed	10
Stanly	32,834	1937	33,237.25	1.012	9,632	.293	18,998.25	.579	4,607	.140	1	---	4	1	1	20
Surry	41,783	1919	42,328.00	1.013	11,459	.274	25,460.00	.609	3,150	.130	1	---	6	2	3	10
Tyrrell-Washington	17,879	1937	20,804.94	1.164	10,288	.576	7,336.94	.410	3,189	.178	---	---	2	1	2	10
Union	39,097	1938	34,537.68	.883	11,812	.302	17,323.68	.443	5,402	.138	1	---	2	1	3b	10
Vance	29,961	1920	24,433.43	.816	9,184	.307	9,958.43	.832	5,291	.177	1	---	2	1	1	10
Wake	109,544	1918	135,555.55	1.237	23,486	.214	97,998.55	.895	14,071	.128	1	---	18sst	5	9b,d	20

TABLE NO. 1-B—Continued.

	1940 Popula- tion	Date Organized	Total Budget		Source of Funds and Amounts							Full-Time Personnel					
			Amount	Per Cap.	State Allotment	Per Cap.	Local Appropriation	Per Cap.	Other Agencies	Per Cap.	H. O.	Other Med. Officer	PHN	Sant.	Clerk Other	Deut. Wks	
COUNTY, CITY OR DISTRICT																	
Warren.....	23,145	1945	\$ 19,885.22	.859	\$ 8,258	.357	\$ 8,032.22	.347	\$ 3,595	.155			2	1	1	20	
Wayne.....	58,328	1920	71,490.00	1.226	17,465*	.300	46,000.00	.790	7,935	.136	1		7s	4i	7t,ed	20	
Wilkes.....	43,003	1920	26,251.91	.611	11,076	.258	8,829.91	.205	6,346	.148	1		2	1	1		
Wilson.....	50,219	1916	46,361.00	.923	14,043	.279	24,892.00	.496	7,426	.148	1		5	1	2	20	
TOTAL.....	3,393,846		\$3,842,110.92	1.132	\$1,070,744	.316	\$2,271,245.92	.669	\$ 500,121	.148	55	10	420	197	224	1430	
Asheville.....	51,310	1923	\$ 126,744.00	2.470	\$ 13,246	.258	\$ 105,015.00	2.047	\$ 8,483	.165	1		10s	8v,i	11ed,b,t	20	
Charlotte.....	100,899	1918	322,112.84	3.192	29,339	.291	276,408.84	2.739	16,365	.162	1	2	29s,st	24v,i	22b,d,t,ed	20	
Rocky Mount.....	25,568		52,778.00	2.064	7,787	.304	40,577.00	1.587	4,414	.173			4	2	4b	20	
TOTAL.....	117,777		\$ 501,634.84	2.822	\$ 50,372	.283	\$ 422,000.84	2.374	\$ 29,262	.165	2	2	43	34	37	60	
COMBINED TOTAL.....	3,571,623		\$4,343,745.76	1.216	\$1,121,116	.314	\$2,693,246.76	.754	\$ 529,383	.148	57	12	463	231	261	1490	
Special Funds for Distribu- tion (Equipment, etc.).....			28,884.00		28,884												
GRAND TOTAL.....	3,571,623		\$4,372,629.76	1.224	\$1,150,000	.322	\$2,693,246.76	.754	\$ 529,383	.148	57	12	463	231	261	1490	

Ex.—Exclusive of:
 A—Asheville
 C—Charlotte
 R. M.—Rocky Mount
 *—Includes funds for special training purposes

t—Technician
 ed—Health Educator
 n—Nutritionist
 v—Veterinarian
 st—Supervising trainee nurse

e—Epidemiologist
 s—Supervising Nurse
 i—P. H. Investigator
 d—Dentist
 b—Bacteriologist

SCHOOLS AND COLLEGES WHICH WERE SURVEYED BY SPECIAL REQUEST

LOCATION	Total Project Films	Definite TB		Suspicious TB		Other Pathology	
		No.	Per 1000	No.	Per 1000	No.	Per 1000
Meredith College 1948.....	288	1	3.5	1	3.5	0	0.0
State College—January 1949.....	4,776	2	0.4	41	8.6	1	0.2
State College—Vetville.....	375	0	0.0	0	0.0	0	0.0
St. Augustine's—Raleigh.....	410	0	0.0	2	4.9	1	2.4
Shaw University—Raleigh.....	1,142	0	0.0	22	19.3	7	6.1
Hertford County Schools.....	642	6	9.3	12	18.7	0	0.0
Lenoir County Schools.....	1,548	0	0.0	12	7.8	6	3.9
Nash County Schools.....	347	0	0.0	5	14.4	3	8.6
Rocky Mount Schools.....	1,325	0	0.0	13	9.8	6	4.5
State College—September 1949.....	1,929	2	1.0	35	18.1	2	1.0
Madison County Schools.....	1,457	5	3.4	54	37.1	9	6.2
Winston-Salem Teachers College.....	513	0	0.0	22	42.9	4	7.8
Meredith College—December 1949.....	563	1	1.8	11	19.5	2	3.6
Wake Forest College.....	710	0	0.0	16	22.5	0	0.0
Washington High School—Raleigh.....	665	0	0.0	15	22.6	2	3.0
Eastern Carolina Teacher's College.....	1,713	0	0.0	11	6.4	4	2.3
TOTALS.....	18,403	17	0.9	272	14.8	47	2.6

SPECIAL SURVEYS

(Food handlers, office workers, industrial workers, and other special groups)

Henderson, Vance County.....	2,282	19	8.3	124	54.3	8	3.5
Veterans Administration.....	560	0	0.0	27	48.2	5	8.9
Boone Area.....	1,670	15	9.0	43	25.7	2	1.2
Murphy Area.....	1,360	16	11.8	44	32.4	3	2.2
Cleveland Cloth Mills.....	586	0	0.0	4	6.8	2	3.4
Davidson County.....	6,494	24	3.7	72	11.1	12	1.8
Forsyth County.....	5,564	17	3.1	50	9.0	0	0.0
Wilson County.....	2,874	5	1.7	64	22.3	36	12.5
Rocky Mount Mills.....	455	0	0.0	2	4.4	0	0.0
Shelton Looms—Rocky Mount.....	683	2	2.9	22	32.2	1	1.5
Wilkes County.....	1,496	5	3.3	59	39.4	2	1.3
Halifax County.....	2,790	10	3.6	89	31.9	18	6.5
Henderson, Vance County 1950.....	1,538	3	2.0	39	25.4	14	9.1
Cabarrus County.....	1,521	5	3.3	72	47.3	6	3.9
Greene County.....	366	0	0.0	4	10.9	3	8.2
Granville County.....	2,114	2	0.9	30	14.2	11	5.2
Bertie County.....	1,863	9	4.8	71	38.1	9	4.8
Anson County.....	957	3	3.1	47	49.1	16	16.7
Montgomery County.....	845	3	3.6	21	24.9	0	0.0
TOTALS.....	36,018	138	3.8	881	24.5	148	4.1

V. INDUSTRIAL HYGIENE SECTION

MEDICAL ACTIVITIES:

Medical activities of this Section have been confined entirely to services rendered the dusty trades in cooperation with the North Carolina Industrial Commission. To date, this has required the full time of our present personnel and equipment; however, with some time-saving innovations it seems possible that other types of industry will receive our medical attention in the future. The following services were rendered:

Physical examinations and x-rays (dusty trades of silica and asbestos)	6,069
X-rays taken in non-dusty trades	1,260
Preemployment (x-rays only)	209
Employees issued work cards	5,977
Employees recommended to be removed from dusty trades	92
Employees recommended for further sanatorium studies	40
Employees with silicosis	48
11 first stage silicosis (early)	
32 second stage silicosis (moderate)	
5 third stage silicosis (advanced)	
Employees with asbestosis	41
32 first stage asbestosis (early)	
7 second stage asbestosis (moderate)	
2 third stage asbestosis (advanced)	
Plants visited for physical examinations and x-rays	215
205 silica plants	
10 asbestos plants	
X-ray retakes	360
Medical case histories submitted to the Industrial Commission	43
Supplementary medical case histories submitted to the	
Industrial Commission	14
Special physical examinations and x-rays requested by the	
Industrial Commission	55
Court hearings attended	108
Court hearings attended (Superior Court)	2
Conferences	39
Conventions attended	2
New personnel	3

In 1949, the practice of making both a 4x10-inch stereoscopic and 14x17-inch film for each employee examined was discontinued. A 4x10-inch stereoscopic is now made on each new employee and a 14x17-inch film only if a retake is necessary. Complete physical examinations have been discontinued in the field during routine x-ray examination. Medical information is obtained with physical examinations given suspicious or known cases of silicosis or asbestosis. This system makes it possible for Section physicians to handle a much larger number of patients.

In early 1950, a schedule for a county-by-county survey of the dusty trades was begun with the intention of bringing up-to-date all examina-

tions in this type of industry. It is expected that this accelerated program will eventually allow more time for the furniture, textile, fertilizer, and other industries that have not received any attention in the past.

Additional medical tests are being considered for the future examinations of employees that have been exposed to toxic substances other than silica or asbestos dust.

ENGINEERING ACTIVITIES:

A major portion of the engineering activities for the past two years has been directed toward improvement of working conditions within the dusty trades. This dust work has been discussed at length in the past, so that this report will cover activities other than those associated with dusty trades. A more diversified program is being attempted with a reduction in time spent on dusty trades.

For ten months during the past two years, engineering work was performed by only two engineers. In July, 1949, a graduate mechanical engineer, familiar with ventilation equipment and techniques, was added to the staff. We are now in position to offer exhaust ventilation information to small plants which are attempting to control occupational hazards in that manner.

Following the example of industrial hygiene units in other states, the radiation hazards associated with the operation of fluroscopic shoe fitting machines were thoroughly investigated. Practically every shoe store in the state that uses an x-ray machine was visited. With radiation measuring instruments, each machine was surveyed and in many cases these were found to be emitting unnecessary and harmful amounts of x-radiation. Safe operating procedures were outlined to the shoe store clerks and posters were placed on the machine to inform the public of the safe practices recommended. The public was genuinely interested in this service and the response was gratifying. Also investigated was the possibility of workers receiving excessive exposures to gamma radiation given off by radium static eliminators that are being used in several of the hosiery mills of this state.

Increasing public concern over the subject of air pollution has caused health departments and civic officials to request help from engineers of this Section regarding this industrial problem. Assistance was offered in several instances involving formaldehyde fumes, foundry smoke, lead smelter smoke and fumes, wood dust, benzene hexachloride fumes, mineral dusts and acid fumes from fertilizer plants. These substances have nuisance values but no health hazard could be assigned to them.

For the past two summers, some investigation has been made into the mixing and handling of the newer and more toxic insecticides manufactured in North Carolina. The insecticides now being used extensively throughout the state include DDT, toxaphene, benzene hexachloride, chlordane, fermate, sabadilla, rotenone, and parathion. Although very little information is available concerning the toxicity of these materials, an attempt is being made to keep the exposures of persons handling them to a minimum.

Professor Emil Chanlett of the University of North Carolina has been added to the staff of this Section as a consultant. When possible, meetings of the engineering personnel and Mr. Chanlett are held twice each month. Subjects concerning industrial hygiene policy and problems are discussed. Several students have been given instruction in the use of field equipment and have accompanied engineers on plant surveys in connection with their courses in industrial hygiene at the University.

Mr. Steve Marsh, Principal Engineer, has attended the 1949 and 1950 Conferences of Governmental Industrial Hygienists, and has received special instruction in x-ray diffraction procedures and radiation monitoring techniques.

Future plans for this Section include locating two engineers in Charlotte with one remaining in the Raleigh office. This would place two engineers in the more industrialized section of the state and should increase production by reducing considerably the time now spent in travel. Samples collected in the field will be sent to Raleigh for analysis.

ENGINEERING ACTIVITIES

I. FIELD

A. Plant visits	511
1. For routine inspection	185
2. For special Industrial Hygiene surveys	326
a. Samples atmospheric contaminants collected	644
(1) Dust	532
(2) Other	112
3. Number workers involved	18,152
4. Field determinations	784

II. LABORATORY

A. Analyses	648
1. Dust	547
a. Particle count	474
b. X-ray diffraction	25
c. Petrographic	40
2. Other contaminants	108

III. MISCELLANEOUS

A. Reports	314
1. Routine inspections	71
2. Special Industrial Hygiene Surveys	217
3. Monthly	24
4. Annual	2
B. Conferences and Meetings	36
C. Papers Presented	3

VI. ACCIDENT PREVENTION SECTION

This Section was created on February 1, 1950. No funds were available so that the program has been carried out by the Director of the Division of Epidemiology with the assistance of personnel assigned to other activities and who, accordingly, had little time available for the new program.

There is a great need for an expansion of public health accident prevention work. In 1948, non-motor vehicle accidents ranked sixth as a cause of death in North Carolina and motor vehicle accidents ranked ninth. If these two groups are combined, the total of the accident deaths in 1948 is 2,244, which is exceeded only by heart disease, apoplexy, cancer, and nephritis as a cause of death.

Much attention is being given to highway safety and to industrial accident prevention by existing programs of other agencies. Public health activities can supplement these to an appreciable extent and can do much in the field of home and farm safety as a part of work already bringing public health workers into intimate contact with homes and farms.

Activities of this Section to date have included collection of educational materials for distribution to local health departments, preparation of articles, and basic planning of needs for future operations. A beginning staff, consisting of a person qualified to direct public health safety activities and a stenographer, is needed, together with funds for supplies.

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